

### US Department of the Interior Bureau of Land Management Carson City District, Nevada

Draft Resource Management Plan and Environmental Impact Statement



## VOLUME 3: CHAPTERS 5, 6, AND 7 NOVEMBER 2014













		OF CONTENTS					
Chap	ter		Page				
5.	CONSULTATION AND COORDINATION						
	5.1	Public Collaboration and Outreach	5-1				
		5.1.1 Scoping Process	5-I				
	5.2	Consultation and Coordination	5-3				
		5.2.1 Cooperating Agencies	5-3				
		5.2.2 Native American Consultation	5-4				
		5.2.3 Cultural Resources Consultation					
		5.2.4 Endangered Species Act Consultation	5-6				
		5.2.5 Resource Advisory Council					
	5.3	List of Preparers	5-7				
6.	REFE	ERENCES	6-I				
7.	GLO	SSARY	7-1				
A B C D	Alternatives A, B, C, D and E Figures Best Management Practices and Standard Operating Procedures Nevada Fluid Mineral Leasing Stipulations BLM Nevada Standards for Public Land Health and Guidelines for Livestock Grazing						
		agement					
E		ter Sage-Grouse Noise Protocol					
F		ing and Proposed Land Withdrawals					
G		ada Class Waters Description; Beneficial Uses; Quality Standards (NRS 445A.425,					
ы		a.520) covered by CCD Planning Area					
H		Description of Recreation Management Areas  Land and Realty Authorizations Right-of-Way Stipulations					
Ī	Lanu	and Realty Additions Right-of-vvay Supulations					
TA	BLES		Page				
5-I	New	spaper Advertisement Publication Dates	5-2				
5-2		cerns Identified through Government-to-Government Consultation and					
		ographic Study	5-5				
5-3	List o	of Preparers – BLM	5-7				
5-4	List o	of Preparers – EMPSi	5-10				

This page intentionally left blank.

## ACRONYMS AND ABBREVIATIONS

**Full Phrase** 

BCB Back County Byway
BCR Bird Conservation Regions
BCWCA Back Country Wildlife Conservation Areas
BLM US Department of the Interior, Bureau of Land Management
BMP best management practice

°C degrees Celsius **CARB** California Air Resources Board **CBR** Central Basin and Range CCD US Department of the Interior, Bureau of Land Management, Carson City District CEO Council on Environmental Quality **CERCLA** Comprehensive Environmental Response, Compensation and Liability Act **CFR** Code of Federal Regulations **CHP** cultural/historic CO carbon monoxide  $CO_2$ carbon dioxide COA condition of approval

CRMP consolidated resource management plan
CSU controlled surface use
CTTM comprehensive travel and transportation management

DOI US Department of the Interior

EA environmental assessment
EIS environmental impact statement
EPA US Environmental Protection Agency
ERMA Extensive Recreation Management Area
ESR emergency stabilization and rehabilitation

°F degrees Fahrenheit
FLPMA Federal Land Policy and Management Act
FMU fire management unit
Forest Service United States Department of Agriculture, National Forest Service
FRCC fire regime condition class

GIS Geographic Information System
GPRA Government Performance and Results Act
GRSG Greater Sage-Grouse

HA herd area

**HMA** Herd Management Area IM Instruction Memorandum LAC limits of acceptable change LUP land use plan **LUPA** land use plan amendment Ma megaannum MOU Memorandum of Understanding **NAAQS** National Ambient Air Quality Standards NAC Nevada Administrative Code NAS US Department of Defense, Naval Air Station National Register National Register of Historic Places Nevada Department of Environmental Protection **NDEP NDOW** Nevada Department of Wildlife Nevada Division of Water Resources **NDWR NEPA** National Environmental Policy Act of 1969 National Historic Preservation Act **NHPA** National Historic Trail NHT **NNHP** Nevada Natural Heritage Program  $NO_2$ nitrogen dioxide US Department of the Interior, National Park Service **NPS NRCS** Natural Resources Conservation Service **NRHP** National Register of Historic Places **NRS** Nevada Revised Statute no surface occupancy NSO Nevada Important Bird Areas **NV IBA NWIS** National Water Information System **NWSRS** National Wild and Scenic Rivers System O<sub>3</sub> ozone OHV off-highway vehicle **ORV** outstandingly remarkable values **PFC Proper Functioning Condition PFYC** Potential Fossil Yield Classification **PGH** preliminary general habitat preliminary general management area **PGMA PILT** Payments in Lieu of Taxes Planning Area Carson City District Resource Management Plan Planning Area  $PM_{10}$ particulate matter with an aerodynamic diameter of 10 microns or less  $PM_{2.5}$ particulate matter with an aerodynamic diameter of 2.5 microns or less parts per billion ppb **PPH** preliminary priority habitat parts per million ppm **PPMA** preliminary priority management area

Recreation and Public Purposes Act

R&PP

**RAC** Resource Advisory Council **RDF** required design features Rapid Ecological Assessment **REA** US Department of the Interior, Bureau of Reclamation Reclamation **RHA** Rangeland Health Assessments **RMIS** Recreation Management Information System **RMP** resource management plan **RMZ** recreation management zone Recreation Opportunity Spectrum **ROS ROW** right-of-way **SHPO** State Historic Preservation Office SIP State Implementation Plan  $SO_2$ sulfur dioxide **SRMA** Special Recreation Management Area SRP Special Recreation Permit Nevada Standards for Public Land Health and Guidelines for Standards and Guidelines Livestock Grazing Management TA Target Areas **TCP** traditional cultural property TL timing limitations **TMA** travel management area US **United States USC United States Code USDA** US Department of Agriculture US Fish and Wildlife Service **USFWS US** Geological Survey **USGS** 

VRM Visual Resource Management

WEG
Wind Erodibility Group
WHB
wild horse and burro
WSA
wilderness study area
WSR
wild and scenic river
WUI
wildland-urban interface

This page intentionally left blank.

## Chapter 5

Consultation and Coordination

## CHAPTER 5 CONSULTATION AND COORDINATION

#### 5. I PUBLIC COLLABORATION AND OUTREACH

This chapter describes the public outreach and participation opportunities that have occurred throughout the development of this draft RMP/EIS, and the coordination and consultation with tribes, government agencies, and other stakeholders that have transpired to date. It includes a list of preparers of the document and the agencies, organizations, and individuals that have been involved in the development of the RMP/EIS.

#### 5.1.1 Scoping Process

Scoping is the term used in the CEQ) regulations for implementing the NEPA. It is the early and open process for determining the scope or range of issues to be addressed in the planning process (40 CFR, Part 1501 et seq.). The scoping process requires the lead agency to invite the participation of federal, state, and local agencies, affected Native American tribes, and other interested persons or parties to provide input on the proposed action. As the word implies, scoping is to determine the scope of issues for the project.

The scoping process encourages public involvement to identify significant issues of land use management actions. It also identifies issues that are not significant to the project and that can thereby be eliminated from detailed analysis. The lead agency initiates public and agency involvement through mailing lists, project websites, and newsletters. It confirms and augments a list of stakeholders and other interested parties during the scoping process.

#### Notice of Intent

The scoping process begins by publishing a Notice of Intent. This is the legal document notifying the public of the BLM's intent to initiate a planning process and to prepare an EIS for a major federal action. The Notice of Intent for the RMP/EIS was published in the Federal Register on February 24, 2012. In it, the BLM invited the affected and interested agencies, organizations, and members of

the general public to participate in the planning process. The goal is to develop the scope and significant issues to be addressed in the planning alternatives and analyzed in the EIS. The scoping period for the receipt of public comments ended on April 29, 2012.

#### **Press Releases**

The BLM used local and regional newspapers throughout the planning area to disseminate information on the RMP scoping and planning process. A press release was posted on the project website (see below) on February 24, 2012, announcing the Notice of Intent for the CCD RMP/EIS process. It also provided information on the six scoping open houses and described the various methods for submitting comments. The press release was sent electronically to over 130 different media outlets. Additionally, the public was notified via Facebook and Twitter on February 24 and March 27 and 29, 2012. In March 2012, the BLM published a notice in seven local newspapers, advertising the scoping meetings. **Table 5-1**, Newspaper Advertisement Publication Dates, displays the date each newspaper published the advertisement announcing the original six scoping open houses.

Table 5-I
Newspaper Advertisement Publication Dates

Nevada Appeal	February 29, 2012
Mason Valley News	March 2, 2012
Reno Gazette	March 2, 2012
Dayton Courier	March 3, 2012
Nevada Appeal	March 5, 2012
Mineral County Independent	March 7, 2012
Nevada Appeal	March 25, 2012
Reno Gazette	March 25, 2012

#### **Postcards**

The BLM mailed a postcard in February 2012 to over 630 agency officials, organizations, and members of the public. It included such information as open house locations and times; it also requested public comments and provided contact information.

The BLM gathered additional contact information during the scoping period, which enabled it to complete a mass mailing list. A project update posted to the RMP website was mailed in postcard format to the project mailing list in July 2013.

#### Website

The BLM continuously updates the project website with information, documents, and announcements about the planning process as well as various documents. The website can be accessed at http://www.blm.gov/nv/st/en/fo/carson\_city\_field.html.

#### Additional Public Outreach

In addition to public scoping conducted for the RMP, the BLM held travel management workshops on as follows:

- October 10, 2012, in Reno, Nevada, at John Ascuaga's Nugget Poolside Terrace Room
- October 16, 2012, in Fallon, Nevada, at the Fallon Convention
- October 18, 2012, in Minden, Nevada, at the Carson Valley Inn

The BLM staff was in attendance to answer questions. Comment forms were provided to collect public input, which was used to help the BLM create a comprehensive route inventory. This will form the basis for a system of designated routes to guide all modes of travel in the CCD.

As of December 2013, BLM staff from the CCD had conducted more than 90 public information meetings or presentations at public, local, and state governments and tribal groups. **Table 1-5** outlines the presentations and dates they were conducted.

#### 5.2 CONSULTATION AND COORDINATION

The CCD RMP will provide guidance for a vast area of BLM-administered land in Nevada. It necessarily requires the coordination of a variety of organizations with interests in the area. Among those are governmental bodies that create, administer, and monitor policy for these and adjacent lands. The BLM developed the RMP by seeking the active participation of these parties.

The following sections document the BLM's consultation and coordination during the RMP/EIS preparation. Consultation is ongoing throughout the entire RMP process.

#### 5.2.1 Cooperating Agencies

The BLM identified a list of potential federal, state, and local government as well as tribal representatives for potential cooperating agency participation. Between February 2012 and July 2013, the BLM sent formal invitations to 50 representatives. Table 1-4 lists the agencies invited and identifies those 25 that have agreed to participate in the RMP process as of July 3013.

These entities continue to work with the BLM by sharing special expertise, resources, and providing comment and review of various preliminary draft documents to help forge the development of the Draft RMP. Throughout the planning process, the BLM has met and coordinated with the cooperating agencies. In addition, combined meetings were held with all of the cooperators on November 8, 2012, and June 13, 2013. The BLM held a conference call on November 19, 2013, with the agencies to review Chapter 2. The cooperating

agencies were provided with the opportunity to review and comment on the Administrative Draft RMP/EIS in April 2014.

#### 5.2.2 Native American Consultation

Federally recognized Native American tribes have a unique legal and political relationship with the government of the United States. EO 13175 requires federal agencies to coordinate and consult on a government-to-government basis with Sovereign Native American tribal governments whose interests may be directly and substantially affected by activities on government-administered lands. Other laws, regulations, guidance, and EOs require government agencies to consult with Native American people. The purpose is to identify cultural values, religious beliefs, traditional practices, and legal rights that could be affected by BLM actions on federal lands. These legal instruments include the NHPA of 1966 (as amended); the American Indian Religious Freedom Act of 1978; the Native American Graves Protection and Repatriation Act; the DOI Secretarial Order No. 3215 (USDI 2000), 512 Department Manual Chapter 2 (USDI 1995), and BLM Manual H-8160-1 (USDI 1994); and EO 13007, Indian Sacred Sites.

The BLM consulted with 10 tribes identified as having an interest or traditional cultural properties in the planning area. BLM staff provided a summary presentation of the RMP process to each of the identified tribes. **Table 1-4** identifies the potentially interested tribes and which tribes have agreed to participate. Consultation is required by and will be consistent with the NHPA and the American Indian Religious Freedom Act.

In addition to the government-to-government consultation, the BLM, with the assistance of a contractor, conducted a confidential ethnographic assessment of the CCD planning area. The primary objectives of this study were as follows:

- Conduct a thorough archival and literature review to identify and document Native American traditional occupancy and use of lands and resources; the review included previously recorded Native American places of cultural and religious importance within the study area
- Elicit contemporary concerns and recommendations for managing traditional resources and cultural and religious values from tribal leaders, elders, or representatives
- Document the BLM's Native American consultations
- Elicit tribal recommendations for managing the BLM-administered lands

**Table 5-2**, Concerns Identified through Government-to-Government Consultation and Ethnographic Study, displays issues that were raised during government-to-government consultation and the ethnographic study.

Table 5-2
Concerns Identified through Government-to-Government Consultation and Ethnographic Study

Concern	RMP Decision	Implementation Decision	Location of Text Addressing Concern in the RMP
Involvement in project		X	Table 2-2 Rows 234, 239, 654-655
planning		^	
Co-managing resources		X	Table 2-2 Rows 242, 655
Concern over the confidentiality of information		×	Table 2-2 Rows 657-658
Access through private land to culturally important places			This is outside the scope of an RMP. The BLM can work to seek assistance in gaining access when public lands are involved.
Commercial pine nut collecting	Х		Table 2-2 Row 295
Invasive species affects pinyon trees	×		Table 2-2 Rows 60-61
Wildland fire	Х		Table 2-2 Rows 234, 223-226
Illegal firewood cutting	Х		Table 2-2 Row 294
Acquisition of public land	X		Table 2-2 Rows 488-489 and 499
Privatization of lands	Х		Table 2-2 Rows 495-496
Unauthorized OHV routes		Х	Unauthorized OHV routes are addressed during travel management planning.
Illegal dumping	Х		Table 2-2 Rows 356 and 662; addressed as public health and safety issue
Mapping and managing medicinal plant habitat		×	This is outside the scope of an RMP. This can be addressed through a Memorandum of Agreement and site-specific mitigation measures.
Establishment of ACECs	Х		Table 2-2 Rows 242, 243
Establishing a "no collection" policy and returning previously collected artifacts to original locations			This is outside the scope of an RMP. BLM Nevada has updated its policy for cultural resource fieldwork. A special permit is required for the collection of cultural materials. Tribal governments are notified 30-days prior to the issuance of the permit. BLM Nevada is in on-going discussions with tribes regarding the returning of cultural material to the original locations.
Training and employment of Native American archaeological monitors		×	This is outside the scope of an RMP. This can be addressed through a Memorandum of Agreement and site-specific mitigation measures.

#### 5.2.3 Cultural Resources Consultation

The BLM has specific responsibilities and authorities to consider, plan for, protect, and enhance historic properties and other cultural properties that may be affected by its actions or actions it permits. The principal federal law addressing cultural resources is the NHPA (16 USC, Section 470), and its implementing regulations (36 CFR, Part 800). These regulations, commonly referred to as the Section 106 process, describe the procedures for identifying and evaluating historic properties, for assessing the effects of federal actions on

historic properties, and for guiding project proponents consulting with appropriate agencies to avoid, reduce, or minimize adverse effects.

The BLM in Nevada meets its responsibilities under Section 106 and other provisions of the NHPA through a state protocol agreement with the Nevada SHPO. Using authorities developed under a nationwide BLM programmatic agreement, the BLM follows an alternate procedure to the 36 CFR, Part 800, regulations to meet historic preservation responsibilities. Cultural resource consultation with the SHPO, Native American tribes, and interested parties is required under the NHPA and a variety of laws, regulations, guidance, departmental orders, and EOs.

The state protocol agreement requires that the BLM invite the SHPO to participate early in preparing or amending land use plans. This is to identify cultural resource issues that should be addressed. The SHPO was invited but declined to be a cooperating agency for the RMP/EIS. The SHPO has also received copies of consultation correspondence with the Native American tribes.

The BLM will invite the SHPO to comment on the draft and final land use plans and on any proposed cultural resource use allocations developed as a result of the RMP/EIS process. Additional consultations with the SHPO and Indian tribes also may be required during implementation of individual projects. Consultations with the SHPO are ongoing and will be completed before the Record of Decision is signed.

#### **5.2.4 Endangered Species Act Consultation**

The ESA, as amended, directs every federal agency to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the existence of any listed species or destroy or adversely modify critical habitat. The ESA authorizes federal agencies to enter into early consultation with the USFWS to make those determinations. The BLM requested a species list from the USFWS of any federally listed, federally proposed, or federal candidate species that may be in the RMP planning area. The BLM will initiate formal consultation with the USFWS under Section 7 of the ESA to review the proposed alternative.

#### 5.2.5 Resource Advisory Council

A RAC is a committee established but the Secretary of Interior to provide advice or recommendations to the BLM management. The BLM notified the Sierra Front-Northwestern Great Basin RAC of the RMP revision project on March 5, 2012. The RAC is composed of 15 members representing a range of interests. The RAC provides input on public land management issues: land use planning, recreation fees, public land classification, management, and tenure within the Carson City and Winnemucca BLM District Offices.

The RAC is facilitated by the BLM public affairs officer. The first meeting with the new RAC was held on June 14, 2012, at the CCD. After a presentation of

the RMP process highlighting the components and issues of the planning area, preliminary planning criteria, and project status.

BLM will continue collaborating with cooperating agencies, the RAC group, and tribal governments.

#### 5.3 LIST OF PREPARERS

An interdisciplinary team (IDT) of resource specialists from the BLM CCD prepared this RMP/EIS.

Table 5-3 List of Preparers – BLM

Name	Years of Experience	Role/Responsibility	Education
Bryant Smith	28	Associate District Manager Leadership and Oversight of RMP Revision	BA, Social Sciences and Outdoor Recreation Management, Bethel College, Minnesota; University of Wisconsin, River Falls; University of Montana, Missoula
Terri Knutson	27	Field Manager Stillwater Field Office ID Team Support	
Leon Thomas	11	Field Manager Sierra Front Field Office ID Team Support	MS, Public Administration, Kentucky State University BS, Criminal Justice/Biology, Northern Arizona University
Shane McDonald	24	Fire Management Officer ID Team Support	BS, Environmental and Resource Science, University of Nevada-Reno
Lisa Ross	15	Public Affairs Officer ID Team Support and assist with Public Scoping	BA, Public Relations, Utah State University
Colleen Sievers	20	Project Manager NEPA Oversight; Social and Economic Conditions	MA, Anthropology, University of Idaho BA, Anthropology, University of Nevada, Reno
Brian Buttazoni	7	Sierra Front Field Office Planning and Environmental Coordinator NEPA Oversight	BA, Biological Sciences, Stanislaus State University
Angelica Rose	13	Stillwater Field Office Planning and Environmental Coordinator NEPA Oversight	BS, Environmental Studies, Southern Oregon University AS, Great Basin College
John Neill	22	Assistant Field Manager Stillwater Field Office	
Paul Fuselier	16	Assistant Field Manager Sierra Front Field Office	BA, Geography, California State University-Chico

Table 5-3 List of Preparers – BLM

Name	Years of Experience	Role/Responsibility	Education
Jim Schroeder		Assistant Field Manager Sierra Front Field Office	
Katrina Leavitt	15	Livestock Grazing; ESR; Vegetation; Weed Management	MS, Natural Resource Management, University of Nevada, Reno
Ryan Leary	6	Livestock Grazing	MS, Range Management, Oregon State University
Chelsy Simerson	7	Livestock Grazing	BS, Rangeland Resources, Oregon State University
Perry Wickham	7	Lands and Realty; Renewable Energy (Wind and Solar)	
Dean Tonenna	14	Weeds	BS, Natural Resources
Chris Kula	4	Fish and Wildlife; Special Status Animal and Plant Species	MS, Natural Resources, Utah State University BS, Wildlife Science
John Wilson	6	Fish and Wildlife; Special Status Animal and Plant Species	MS, Fish and Wildlife Biology, Colorado State University BS, Fish and Wildlife Biology, Colorado State University
Pilar Ziegler	9	Fish and Wildlife	MS, Wildlife Biology, University of Montana
John Axtell	26	Wild Horse and Burros	MS, Wildlife Science, New Mexico State University BS, Wildlife Management, Humboldt State University
Dan Erbes	29	Geology and Minerals (excluding Geothermal and Oil and Gas); Public Safety; Fluid Minerals (Geothermal and Oil and Gas)	MS, Geology
Ken Depaoli	6	Geology and Minerals (excluding Geothermal and Oil and Gas)	BS, Geology, University of Nevada, Reno
Carla James	24	Geology and Minerals (excluding Geothermal and Oil and Gas); Public Safety; Fluid Minerals (Geothermal and Oil and Gas)	BS, Geology, University of Nevada-Reno
Joel Hartmann	5	Geology and Minerals (excluding Geothermal and Oil & Gas)	BS, Environmental Science Geology, University of Montana Western
Deb Snyder	25	Environmental Education and Interpretation	BS, Journalism, West Virginia University
Cheryl Davis	7	GIS Support	
Devin Welty	6	GIS Support	AAS, Geographical Information Systems, Western Nevada College

Table 5-3 List of Preparers – BLM

Name	Years of Experience	Role/Responsibility	Education
Michael Grimes	7	IT Support	BS, Information System Security, ITT Technical Institute
Niki Cutler	3	Air; Climate Change; Soil; Water	MS, Hydrology, University of Nevada-Reno
Keith Barker	12	Wildland Fire Ecology and Management	BS, Parks, Tourism and Recreation Management, Clemson University
Ryan Elliot	7	Wildland Fire Ecology and Management	BS, Forestry, Iowa State University
Tim Roide		Wildland Fire Ecology and Management	
Coreen Francis	21	Forestry and Woodland Products	MS, Forestry, Oregon State University
Jason Wright	13	Cultural Resources; National Historic Trails; Paleontological Resources; Tribal Interests; Native American Consultation	MA, Anthropology, University of Idaho BS, Anthropology BS, History
Kristin Bowen 10		Cultural Resources; Paleontological Resources	BA and MA, Anthropology, University of Montana
Matt Simons	6	Lands and Realty; Renewable Energy (Wind & Solar)	BS, Business Science, California State University- Chico
Dan Westermeyer	25	Visual Resources; Wilderness Characteristics; Cave and Karst Resources; Recreation and Visitor Services; Comprehensive Trails and Travel Management; Special Designations	BS, Natural Resource Management, Humboldt State University
Arthur Callan	18	Visual Resources; Wilderness Characteristics; Cave and Karst Resources; Recreation and Visitor Services; Comprehensive Trails and Travel Management; Special Designations	BS, Natural Resource Management, Oklahoma State University
Mike Davis	16	Cadastral; Transportation Facilities	BS, Bio-mechanical Engineering, University of Nevada-Reno
Scott Fischer	15	Public Safety	BS, Geology, University of Colorado Boulder AS, Park Management, West Valley College

The following individuals provided input on the Draft RMP/EIS but are no longer with the Carson City District:

Steve Kramer	Planning and Environmental Coordinator
Ed Klimasauskas	Fluid Minerals (Geothermal and Oil and Gas)
Steep Weiss	Forestry
Jim Carter	Cultural Resources; National Historic Trails; Paleontological Resources; Tribal Interests; Native American Consultation
Susan McCabe	Cultural Resources; National Historic Trails; Paleontological Resources; Tribal Interests; Native American Consultation
Joanne Hufnagle	Lands and Realty; Renewable Energy (Wind and Solar)
Chuck Valentine	Lands and Realty; Renewable Energy (Wind and Solar)
Chris McAlear	Leadership and Oversight of RMP Revision
Bernadette Lovato	Leadership and Oversight of RMP Revision
Erik Pignata	Lands and Realty; Renewable Energy (Wind & Solar)
Kathryn Dyer	Livestock Grazing; ESR; Vegetation; Weed Management
Jim Schroeder	Leadership and Oversight of RMP Revision

EMPSi assisted the BLM in preparing these documents and in the planning process.

Table 5-4 List of Preparers – EMPSi

Name	Years of Experience	Role/Responsibility	Education
David Batts	21	Principal; Alternative Development; QA\QC	MS, Natural Resource Management
Jennifer Thies	16	Project Manager	MS, Natural Resources Management BS, Conservation and Resource Studies
David Parker	38	Assistant Project Manager	MS, Environmental Management BS, Geology BA, Anthropology
Carol-Anne Garrison	14	Physical Resources Lead	MA, Anthropology

Table 5-4 List of Preparers – EMPSi

Name	Years of Experience	Role/Responsibility	Education
Holly Prohaska	14	Resource Uses Lead; Wild Horse and Burros Lead	MS, Environmental Management
Meredith Zaccherio	8	Biological Resources Lead	MA, Biology
Andrew Gentile	12	Public Collaboration	MS, Environmental Management BS, Biochemistry
Marcia Rickey	14	GIS/eGIS Lead Analyst	MS, Conservation Biology
Liza Wozniak	8	Vegetation, Weeds, and Threatened, Endangered, or Sensitive Plant and Animal Species	MS, Ecology
Zoe Ghali	8	Livestock Grazing and Social and Economic Lead	MS, Environmental Physiology
Jordan Adams	3	Minerals and Geology; Paleontology; Cultural Resources; National Trails	BS, Environmental Science, Minor in Geology
Derek Holmgren	15	Water Resources; Soils	MS, Environmental Science MPA, Environmental Policy and Natural Resource Management BS, Environmental Studies BA, International Studies
Amy Cordle	20	Air Resources; Climate Change	BS, Civil Engineering
IATT IONNON / VVIIDIAND FIRE MANAGEMENT		BS, Conservation and Resource Studies	
Peter Gower	8	Lands and Realty; Renewable Energy; Travel Management; Backcountry Byways	MS, Geography
Drew Vankat	П	Recreation; Travel management	MS, Environmental Policy and Planning
Sean Cottle	I	Water Resources; Special Designations	BS, Ecohydrology
Kate Krebs	8	Special Designations; Visual Resources Management	BA, Environmental Studies, Spanish, Minor in Political Science
Lauren Zielinski 3 Social and Economic Value Environmental Justice		Social and Economic Values; Environmental Justice	BS, Earth and Environmental Engineering
Laura Long	6	Technical Editing	MA, Communications BA, English Literature
Randolph Varney	22	Technical Editing	MFA, Writing BA, Technical and Professional Writing

This page intentionally left blank.

# Chapter 6 References

## CHAPTER 6 REFERENCES

- Agouridis, Carmen T., Stephen R. Workman, Richard C. Warner, and Gregory D. Jennings. 2005. Livestock Grazing Management Impacts On Stream Water Quality: A Review. *Journal of the American Water Resources Association*. Available online: http://lshs.tamu.edu/docs/lshs/end-notes/livestock%20grazing%20management%20impacts%20on%20stream%20water%20quality-1995420186/livestock%20grazing%20management%20impacts%20on%20stream%20water%20quality.pdf.
- Antevs, Ernst 1938. Rainfall and Tree Growth in the Great Basin. Published Jointly by Carnegie Institution of Washington and the American Geographical Society of New York, 1938.
- Armour, C.L., D.A. Duff, and W. Elmore. 1991. The effects of livestock grazing on riparian and stream ecosystems. Fisheries 16 (1):7-11.
- Alpine County Chamber of Commerce. 2012. Alpine County Chamber of Commerce website: http://www.alpinecounty.com/index.html. Accessed on July 25, 2012.
- APLIC (Avian Power Line Interaction Committee). 2006. Suggested Practices for Avian Protection on Power Lines 2006.
- \_\_\_\_\_\_. 2012. Reducing Avian Collisions with Power Lines, the State of the Art 2012. www.aplic.org. Accessed on September 4, 2013.
- Atkins, D. 2012. USFS Biomass Forester. C. Francis, Interviewer. July 15, 2012.
- Bacigalupi, T. 2010. Ecosystem Services: their Value and Place in Land Use Planning. Wild Connections. Wildland Connections. Florissant, CO.
- Bi-State Technical Advisory Committee Nevada and California. 2012. Bi-State Action Plan. Past, Present, and Future Actions for Conservation of the Greater Sage-grouse Bi-State Distinct Population Segment. Prepared for the Bi-State Executive Oversight Committee for Conservation of Greater Sage-Grouse. March 15, 2012.

BLM (US Depa Plan.	rtment of the Interior, Bureau of Land Management). 1983. Reno Management Framework
	ra. Handbook H-8400 – Visual Resource Management. Rel. 8-24. April 5, 1984. BLM ngton, DC.
1984b	o. Lahontan Resource Management Plan.
	a. Handbook H-8410-1 – Visual Resource Inventory. Rel. 8-28. January 17, 1986. BLM ngton, DC.
	o. Handbook H-8431-1 – Visual Resource Contract Rating. Rel. 8-30. January 17, 1986. BLM ngton, DC.
	c. Walker Resource Management Plan. Carson City: US Department of Interior, Bureau of Ianagement, Carson City District.
	a. Manual 1613: Areas of Critical Environmental Concern. Rel. 1-1541, September 29, 1988 Vashington, DC.
1988b	o. ACEC Management Plan for Incandescent Rocks Natural Scenic ACEC.
	. ACEC Management Plan for Stewart Valley Fossil Site. Carson City: US Department or, Bureau of Land Management.
1991.	Nevada BLM Statewide Wilderness Report. BLM, Nevada State Office, Reno, NV.
	a. Manual 5400 - Sales of Forest Products. Washington, D.C.: US Department of the r, Bureau of Land Management.
	b. Manual Section 1745 Introduction, Transplant, Augmentation and Reestablishment of Fish and Plants. Washington, D.C.: US Department of the Interior, Bureau of Landement.
1998a July 13,	a. Handbook H-8270-1, General Procedural Guidance for Paleontological Resource Management , 1998.
1998b	o. Manual 8270, Paleontological Resources Management. July 13, 1998.
	c. Technical Reference-Riparian Area Management TR 1737-7 1998_Process for Assessing Functioning Conditions and the Supporting Science for Lotic Areas pp. 27.
	d. Technical Reference-Riparian Area Management TR 1737-15 1998 A User Guide tong Proper Functioning Conditions and the Supporting Science for Lotic Areas pp. 34.
2001a	a. Technical Reference 1730-2. Denver: US Department of the Interior.
20016	o. Southern Washoe County Plan Amendment.

 2001c. Carson City Field Office Consolidated Resource Management Plan. Carson City: US Department of the Interior, Bureau of Land Management.
2004a. Carson City Field Office Fire Management Plan. Carson City: US Department of Interior, Bureau of Land Management.
 2004b. Manual 8110, Identifying and Evaluating Cultural Resources. December 3, 2004.
 2004c. Manual H-8120, Tribal Consultation under Cultural Resources. December 3, 2004.
 2004d. Handbook H-8120-1, General Procedural Guidance for Native American Consultation. December 3, 2004.
 2005a. Handbook H-1601-1, Land Use Planning. Washington, D.C.: US Department of the Interior, Bureau of Land Management.
 2005b. Final Programmatic Environmental Impact Statement on Wind Energy Development on BLM-Administered Lands in the Western United States. June 2005.
 2006. Final Minerals Assessment Report. Winnemucca District. September 2006.
 2007a. Standards for Rangeland Health & Guidelines for Grazing Management, Sierra Front Northwestern Great Basin Area. Reno: US Department of Interior, Bureau of Land Management, Nevada State Office.
2007b. Instruction Manual 2008-009, Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands. October 15, 2007.
 2007c. Alpine County Plan Amendment.
 2007d. LandFire GIS data available on BLM's eGIS server. Landscape Fire and Resource Management Tools Planning Project.
2008a. BLM and USFS (US Forest Service). Record of Decision and Resource Management Plan Amendments for Geothermal Leasing in the Western United States. December 2008.
 2008b. GIS data of SnythMap vegetation communities. NNHP. GIS data acquired via BLM's eGIS server.
 2008c. Handbook H-1740-2, Integrated Vegetation Management. Rel.1-1714, March 25, 2008. BLM, Washington, DC.
2009. BLM Carson City Lands Bill 2009.
. 2011a. Wildland Fire Management Information. Reno. NV. USA.

2011b. The BLM a Sound Investment for America. BLM/WO-GI/011/033+1800. Published
February 2011. Available online: http://www.blm.gov/pgdata/etc/medialib/blm/wo/Planning_and_Renewable_Resources/planning_images/planning_image_folder.Par.46392.File.dat/lnvestinglnAmerica.pdf.
2011c. Analysis of the Management Situation prepared for the Carson City District Office RMF Revision. Carson City, NV.
2011d. Manual 1626 Travel and Transportation Management.
2012a. GIS Data. 2012. GIS data and report for VRI classes conducted by URS. GIS data acquired via BLM's eGIS server. October, 2012.
2012b. Manual 6310, Conducting Wilderness Characteristics Inventory on BLM Lands. Washington D.C.: US Department of the Interior, Bureau of Land Management.
2012c. Manual 6320 Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process. Rel. 6-130. BLM, Washington, DC. March 15, 2012.
2012d. Timber Sale Information System/Special Forest Products Database. Washington, D.C.
2012e. Manual 6330, Management of Wilderness Study Areas. Rel 6-134. BLM, Washington, DC July 13, 2012.
2012f. GIS database on file with BLM's eGIS server. Department of the Interior, BLM, Carson City District Office. Carson City, NV.
2012g. Fiscal Year 2011 Receipts Data. BLM, Carson City District Office, Carson City, NV Unpublished data. June 2012.
2012h. Recreation Management Information System (RMIS), a BLM recreation database. Data from Fiscal Years 2006-2011. BLM, Carson City District Office, Carson City, NV. Unpublished data. Retrieved August 2012.
2012i. Information from Mineral Materials database. Data from Fiscal Year 2011. BLM, Carson City District Office, Carson City, NV, 2012. Unpublished data. Accessed June 2012.
2012j. 2012 Grazing Fee, Surcharge Rates, and Penalty for Unauthorized Grazing Use Instruction Memorandum No. 2012-070. Internet Website http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2012/IM_2012-070.print.html. Accessed August, 2012.
2012k. Carson City District Resource Management Plan and Environmental Impacts Statement Collaboration and Communication Plan. Bureau of Land Management Carson City District Office Nevada. May 2012.
2012L. Approved Resource Management Plan Amendments and Record of Decision for Solar Energy Development in Six Southwestern States. Washington, DC, October 2012.

2012m. A Sound Investment for America. Washington Office. May 2012.
2012n. Handbook H-8342, Travel and Transportation. March 16, 2012.
2012o. Manual 6400, Wild and Scenic Rivers — Policy and Program Direction for Identification, Evaluation. Rel 6-136. BLM, Washington, DC. July 13, 2012.
2012q. Manual 6280, Management of National Scenic and Historic Trails and Trails Under Study or Recommended as Suitable for Congressional Designation. September 14, 2012.
2013a. Carson City Resource Management Plan Socioeconomic Baseline Assessment Report.
2013b. Areas of Critical Environmental Concern Report on the Application of the Relevance and Importance Criteria. BLM, Carson City District Office, Carson City, NV. March 2013. Available online at: https://www.blm.gov/epl-frontoffice/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=32703.
2013c. Wild and Scenic River Eligibility Report. BLM, Carson City District Office, Carson City, NV. February 2013. Available online at: https://www.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=32 703.
2013d. BLM and Forest Service. GIS 2013. Nevada and Northeastern California Greater Sage-Grouse Draft Land Use Plan Amendment and Environmental Impact Statement GIS data for Sage-grouse PPMA and PGMA. Department of the Interior, BLM and Department of Agriculture, Forest Service. GIS data acquired via BLM's eGIS server.
2013e. Winnemucca District Resource Management Plan, Appendix I-Reasonable Foreseeable Development Scenarios. Proposed RMP/Final EIS.
2013f. Mineral Potential Assessment Report. Carson City District, Nevada. June 2013.
2013g. Reasonably Foreseeable Development Scenario for the Carson City District Office Resource Management Plan.
2013h. Rapid Ecoregional Assessment. Available online at: http://www.blm.gov/wo/st/en/prog/more/Landscape_Approach/reas.html.
2013i. Handbook H-1624-1, Planning for Fluid Mineral Resources. January 28, 2013.
2014a. GIS data created to describe CCD RMP alternatives, created September 2013 -June 2014. Department of the Interior, BLM, Nevada Carson City District Office.
2014b. Base GIS data on file with BLM's eGIS server. BLM, Carson City District Office, Carson City, NV.

- \_\_\_\_\_\_. 2014c. June 2014 Draft Report on Lands with Wilderness Characteristics. BLM, Carson City District Office, Carson City, NV.
- BLM and DOE (Bureau of Land Management and Department of Energy). 2012. Final Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States. July 2012.
- Blomberg, E. J., J. S. Sedinger, M. T. Atamian, and D. V. Nonne. 2012. "Characteristics of climate and landscape disturbance influence the dynamics of greater sage-grouse populations." *Ecosphere* 3(6):55. http://dx.doi.org/10.1890/ES11-00304.
- Boshell, Cynthia. 2010. Public Land Policy as a Cultural Empowerment Tool: The Federal Land Policy and Management Act of 1976 (FLPMA), with special emphasis on the California Traditional Gathering Policy. Internet Web Site: http://users.humboldt.edu/boshell/PDF/boshell\_FLPMA.pdf. Accessed September 8, 2011.
- Bradley, P. M. 2006. The Revised Nevada Bat Conservation Plan. Reno. California State Water Resources Control Board. 2011. Information pertaining to water rights in California. Retrieved Jaunary 31, 2012, from www.swrcb.ca.gov/waterrights.
- Brunson, M. W., and B. S. Steel. 1996. Sources of variation in attitudes and beliefs about federal rangeland management. *Journal of Range Management* 49:69–75.
- California Department of Finance, Demographic Research Unit. 2012. Interim Projections of Population for California: State and Counties. May 7, 2012. Internet website: http://www.dof.ca.gov/research/demographic/reports/projections/interim/view.php. Accessed May 29, 2012.
- CARB (California Air Resources Board). 2012. California Ambient Air Quality Standards (CAAQS). http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm. June 7, 2012. Access June 21, 2013.
- Carson City, Nevada. 2012. Internet website: http://carson.org/Index.aspx?page=1. Accessed on July 16, 2012.
- Caskey, S. J. 2004. Historic surface faulting and paleoseismicity in the area of the 1954 Rainbow Mountain-Stillwater earthquake sequence, central Nevada. *Bulletin of the Seismological Society of America*, 94(4), 1255-1275.
- Casazza, M. L., P. S. Coates, and C. T. Overton. 2011. "Linking habitat selection to brood success in greater sage-grouse." In: M. K. Sandercock, K. Martin, and G Segelbacher (editors). Ecology, Conservation, and Management of Grouse. University of California Press, Berkeley. Pp. 151-167.
- Center for Science. 2002. The state of the nation's ecosystems: measuring the lands, waters, and living resources of the United States. Cambridge, United Kingdom: Cambridge University Press.
- CEPA (California Environmental Protection Agency). GIS Data. 2010. GIS data for streams in California (303d list). California Environmental Protection Agency, State Water Resources Board.

- Chambers, J. C. 2008. Climate Change and the Great Basin. In J. C. Chambers, N. Devoe, & A. Evenden, Collaborative management and research in the Great Basin examining the issues and developing a framework for action (pp. 29-32). Fort Collins: U.S.D.A. Forest Service, Rocky Mountain Research Station.
- City of Fernley, Nevada. 2012. Internet website: http://www.cityoffernley.org/index.aspx?nid=569. Accessed on July 18, 2012.
- City of Yerington, Nevada. 2012. Internet website: http://www.yerington.net/. Accessed on July 18, 2012.
- Coates, P. S., Z. B. Lockyer, M. A. Farinha, J. M. Sweeney, V. M. Johnson, M. B. Meshriy, S. P. Espinosa, D. J. Delehanty, and M. L. Casazza. 2011. Preliminary Analysis of Greater Sage-Grouse Reproduction in the Virginia Mountains of Northwestern Nevada: US Geological Survey Open-File Report 2011-1182.
- Coates, P. S., and D. J. Delehanty. 2010. "Nest predation of greater sage-grouse in relation to microhabitat factors and predators." *Journal of Wildlife Management* 74:240-248.
- Coates, P. S., and M. L. Casazza. In prep. (A). Avoidance by greater sage-grouse of pinyon pine and juniper tree encroachment within sagebrush ecosystem.
- \_\_\_\_\_. In prep. (B). Winter habitat selection of greater sage-grouse in the Bi-State DPS.
- Cole, J., D. Gutzler, D. Meko, K. Wolter, and M. Lenart. 2004. Climate experts discuss Southwest drought. Soutwest Climate Outlook, 2-5.
- Comer, P., P. Crist, M. Reid, J. Hak, H. Hamilton, D. Braun, G. Kittel, I. Varley, B. Unnasch, S. Auer, M. Creutzburg, D. Theobald, and L. Kutner. 2013. *Central Basin and Range Rapid Ecoregional Assessment Report.* Prepared for the U.S. Department of the Interior, Bureau of Land Management. 168 pp + Appendices.
- COMEX. 1980. Commodity Exchange, Inc., a divis ion of the New York Mercantile Exchange (NYMEX). New York: COMEX.
- Connelly, J. A. 1997. Long-term changes on sage grouse Centrocercus urophasianus populations in western North America. *Wildlife Biology*, 3, 229-234.
- Connelly, J. W., M. A. Schroeder, A. R. Sands, and C. E. Braun. 2000. Guidelines to Manage Sage Grouse Populations and Their Habitats. Wildlife Society Bulletin 28(4):967-985.
- Connelly, J. W., Knick, S. T., Schroeder, M. A., and Stiver, S. J. 2004. *Conservation Assessment of Greater Sage-Grouse and Sagebrush Habitats*. Cheyenne, WY: Unpublished.
- Cowley, E. R. Guidelines for Establishing Allowable Levels of Streambank Alteration. 2002.
- Daubenmire, R. 1968. Plant Communities; A textbook of plant synecology. New York: Harper and Row.

Acres Data for Fiscal Year 2011. Internet Web Site: http://www.doi.gov/pilt/countypayments.cfm. Accessed June 5, 2012. DOI and USDA (US Department of the Interior and US Department of Agriculture). 2001. A guide to Managing, Restoring, and Conserving Springs in the Western United States. Technical Reference 1737-17. Bureau of Land Management, Denver, Colorado. BLM/ST/ST-01/001+1737. 70 pp. . 2005. Interpreting Indicators of Rangeland Health. Technical Reference 1734-6 Version 4. **Douglas** County, Nevada. 2012. Internet website: http://nv-douglascounty.civicplus.com/ index.aspx?NID=173. Accessed July 16, 2012. Eichman, H., G.L. Hunt, J. Kerkvliet, and A, J. Planting 2010. Local Employment Growth, Migration, and Public Land Policy: Evidence from the Northwest Forest Plan. Journal of Agricultural and Resource Economics 35(2):316–333 Copyright 2010 Western Agricultural Economics Association. EPA (US Environmental Protection Agency). 1998. EPA Environmental Justice Guidelines. April 1998. \_. 2009. Inventory of US Greenhouse Gas Emissions and Sinks: 1990 – 2007, Executive Summary. 2011a. National Ambient Air Quality Standards (NAAQS). Internet Web site: http://epa.gov/air/criteria.html. Accessed on March 7, 2012. October 2011. Accessed on March 12, 2012. 2011b. Climate Change, Basic Information. Internet Web site: http://www.epa.gov/climatechange/basicinfo.html. 2012a. Clean Energy and Climate Change - State Activities. Internet Web site: http://www.epa.gov/region9/climatechange/states.html#nevada. . 2012b. Ecoregions of North American, Leve III Ecoregions. Retrieved February 9, 2012, from **Ecology** US **Environmental** Western Division: Protection Agency, www.epa.gov/wed/pages/ecoregions/na\_eco.htm. . 2013. The Green Book Nonattainment Areas for Criteria Pollutants. Internet Web site: http://www.epa.gov/oaqps001/greenbk/. Accessed June 21, 2013. . 2014a. Inventory of US Greenhouse Gas Emissions and Sinks: 1990–2012. Internet web site: http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2014-Main-Text.pdf. April. \_. 2014b. Climate Change: Southwest. Internet Web site: http://www.epa.gov/climatechange/ impacts-adaptation/southwest.html.

DOI (US Department of the Interior). 2012. Payment in Lieu of Taxes (PILT), County Payments and

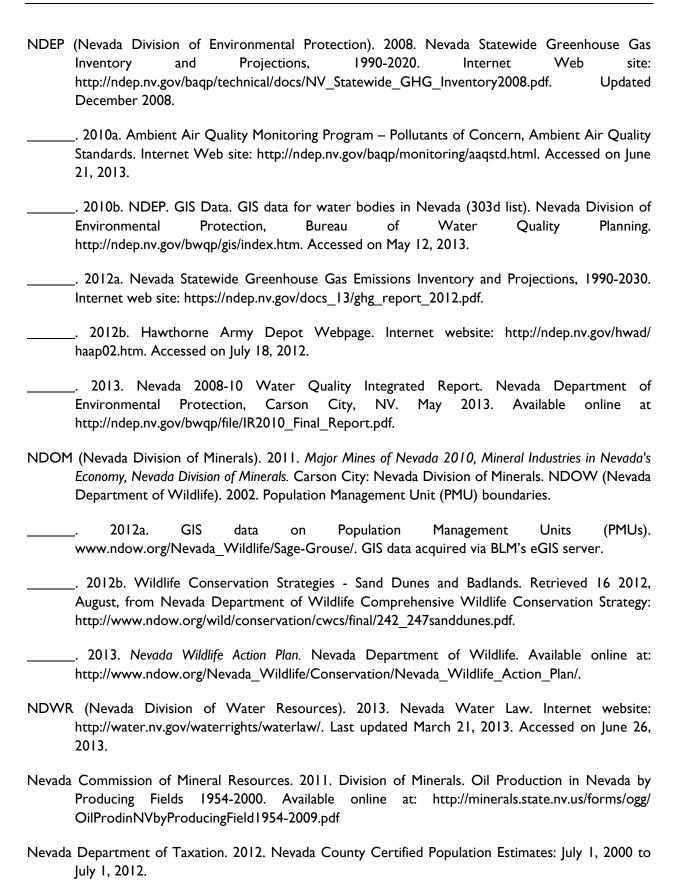
Accessed on July 16, 2012.

Fallon Convention and Tourism Authority. 2012. Internet website: http://www.visitfallonnevada.com.

- Fausold, C. J. and R. J. Lilieholm. 1996. The economic value of open space. Land Lines 8(5):1–4. September 1996.
- Firby, J. R. 1981. Paleontological inventory of the Carson City Bureau of Land Management District and paleontological bibliography of Nevada. Reno: University of Nevada Press.
- Floyd, e. a. 2007. Atlas of the Breeding Birds of Nevada. Reno: University of Nevada Press.
- Forest Service (US Department of Agriculture, Forest Service). 2005. Spending Profiles of National Forest Visitors, NVUM Four Year Report. Daniel J. Stynes and Eric M. White. May 2005.
- \_\_\_\_\_\_. 2007. East Carson River Strategy. Forest Service, Carson Ranger District, Humboldt-Toiyabe National Forest, Alpine County, California and Douglas County, Nevada. July 2007.
- Friends of Nevada Wilderness (FNW). 2013. Friends of Nevada Wilderness GIS Data. GIS specialist Jake Kastner. Chapter 2 Alternatives. December 2013.
- GBGS (Great Basin GeoScience). GIS Data. 2013. Great Basin Streams from the National Atlas. Great Basin GeoScience. http://keck.library.unr.edu/Data/GreatBasinGeoScience. Accessed on September 25, 2013.
- Great Basin Bird Observatory. 2010. Nevada Comprehensive Bird Conservation Plan, Ver 1.0. Reno.
- Haefele, M., P. Morton, and N. Culver. 2007. *Natural Dividends: Wildland Protection and the Changing Economy of the Rocky Mountain West*. Washington, D.C. The Wilderness Society.
- Hagen, C.A., J.W. Connelly, and M.A. Schroeder. 2007. A Meta-analysis of Greater Sage-grouse Centrocercus urophasianus Nesting and Brood-rearing Habitats. Wildlife Biology 13(spl):42-50.
- Headwaters Economics. 2012. Economic Profile System Socioeconomic Profiles produced for Carson City, Churchill, Nye, Washoe, Storey, Douglas, Lyon, Mineral, Alpine, Lassen and Plumas Counties. Internet Web site: http://www.headwaterseconomics.org/eps/. Data for Economic Profile System accessed on May 22, 2012.
- Heyerdahl, E. K., Brubaker, L. B., and Agee, J. K. 2001. Spatial Controls of Historic Fire Regimes. *Ecology*, 660-678.
- Holechek, J. L., R. D. Piper, and C. H. Herbel. 1998. Range management: principles and practices. Third ed., Prentice-Hall, Upper Saddle River, New Jersey.
- IPCC (Intergovernmental Panel on Climate Change). 2001. Climate Change 2001 Synthesis Report: Summary for Policymakers. Internet Web site: www.ipcc.ch.
- \_\_\_\_\_\_. 2007. Climate Change 2007: The Physical Science Basis: Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Internet Web site: http://www.ipcc.ch/.

- Jessop, B. D., and Anderson, V. J. 2007. Cheatgrass Invasion in Salt Desert Shrublands: Benefits of Postfire Reclamation. Rangeland Ecology and Management, 235-243.
- Kauffman, J.B., W.C. Krueger. 1984. Livestock Impacts on Riparian Ecosystems and Streamside Management Implications. A Review. *Journal of Range Management* 37(5), September 1984. Pp.430-438.
- Kay, C.E. 2002. The Condition and Trend of Aspen Communities on BLM Administered Lands in North-Central Nevada With Recommendations for Management. Final Report to USDOI BLM Elko Field Office, Elko, Nevada. Wildlife Management Services. Providence, Utah.
- Kolada, E. J., J. S. Sedinger, M. L. Casazza. 2009. "Nest site selection by greater sage-grouse in Mono County, California." *Journal of Wildlife Management* 73:1333-1340.
- \_\_\_\_\_\_. 2009b. "Ecological factors influencing nest survival of greater sage-grouse in Mono County, California." Journal of Wildlife Management 73:1341-1347.
- Lassen County, California. 2001. Internet website: http://www.co.lassen.ca.us/default.asp. Accessed on July 25, 2012.
- Lindsay, E. M. 2002. Recognition of the Hemphilian/Blancan boundary in Nevada. *Journal of Paleontology*, 22, 429-442.
- Lobeck K. A. 1975. Physiographic Provinces of North America. The Geographical Press. 1:12,000,000.
- Lockyer, Z., P. S. Coates, M. L. Casazza, S. Espinosa, D. L. Delehanty. In review. Linking nest site selection to nest survival in greater sage-grouse.
- Lorah, P., & R. Southwick. 2003. Environmental Protection, Population Change, and Economic Development in the Rural Western United States. *Population and Environment*, 24(3): 255–272.
- Lyon County, Nevada. 2012. Lyon County, Nevada website: http://www.lyon-county.org/index.aspx. Accessed on July 18, 2012.
- Manier, D. J., D. J. A. Wood, Z. H. Bowen, R. M. Donovan, M. J. Holloran, L. M. Juliusson, K. S. Mayne, S. J. Oyler-McCance, F. R. Quamen, D. J. Saher, and A. J. Titolo. 2013. Summary of Science, Activities, Programs and Policies that Influence the Rangewide Conservation of Greater Sage-Grouse (Centrocercus urophasianus). U.S. Geological Survey Open-File Report 2013-1098, Fort Collins, Colorado.
- Maurer, D. K., A. K. Johnson, and A. H. Welch. 1996. Hydrogeology and Potential Effects of Changes in Water Use, Carson Desert Agricultural Area, Churchill County, Nevada. US Geological Survey Water Supply Paper 2436.
- McGranahan, D. A. 1999. Natural Amenities Drive Rural Population Change. Economic Research Service. U.S. Department of Agriculture. Washington, D.C.

- McPhee, J., A. Comrie, and G. Garfin. 2004. Drought and climate in Arizona: Top ten questions and answers. *University of Arizona Climate Assessment Project for the Southwest (CLIMAS)*, 1-22.
- Mineral County, Nevada 2012 Internet website: http://www.mineralcountynv.us/. Accessed July 19, 2012.
- National Conference of State Legislatures. 2008. Nevada: Assessing the Costs of Climate Change. Internet Web site: http://www.cier.umd.edu/climateadaptation/Climatechange--NEVADA.pdf.
- National Department of Forestry. 1990. State Natural Resource Assessment. Carson City, NV: Nevada Division of Forestry.
- NBMG (Nevada Bureau of Mines and Geology). 2012. The Nevada Mineral Industry 2010. Special Publication MI-2010. Accessed September 12, 2012.
- NOAA (National Oceanic and Atmospheric Administration). 1997. The 1997 El Niño: Potential effects in Nevada November 1997 to April 1998 Climate Prediction Center (CPC), NWS/NOAA. November 1997. Accessed on 05/20/2014. Internet web site: http://www.cpc.ncep.noaa.gov/products/analysis\_monitoring/ensostuff/states/nv.disc.html.
- NPS (National Park Service). 1997. National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation.
- \_\_\_\_\_\_. 1998. National Register Bulletin 38, Guidelines for Evaluating and Documenting Traditional Cultural Properties.
- \_\_\_\_\_\_. 1999. Comprehensive Management and Use Plan and Final EIS for the California and Pony Express National Historic Trails and Management and Use Plan Update and Final EIS for the Oregon and Mormon Pioneer National Historic Trails. 339pp.
- NRCS (Natural Resources Conservataion Service). 2009. *National Soil Survey Handbook*, title 430-VI. Internet Web site: http://soils.usda.gov/technical/handbook/. Accessed on March 17, 2010.
- \_\_\_\_\_\_. 2012a. Ecological Site Information System. Retrieved August 24, 2012, from http://esis.sc.egov.usda.gov/.
- \_\_\_\_\_\_. 2012b. Major Land Resource Area (MLRA). Retrieved August 24, 2012, from http://soils.usda.gov/survey/geography/mlra.
- NREL (National Renewable Energy Laboratory). 2008. Map: United States Photovoltaic Solar Resource: Flat Plate Tilted at Latitude. Internet website: http://www.nrel.gov/gis/images/map\_pv\_national\_hi-res\_200.jpg. Accessed July 2014.
- \_\_\_\_\_\_. 2013. Data Maps, GIS Data, and Analysis Tools. Solar Maps. Internet Web site: http://www.nrel.gov/gis/solar.html.
- NatureServe. 2011. GIS data of vegetation communities. NatureServe Explorer: An online encyclopedia of life. Version 7.1. Retrieved February 21, 2012, from NatureServe: www.natureserve.org/explorer.

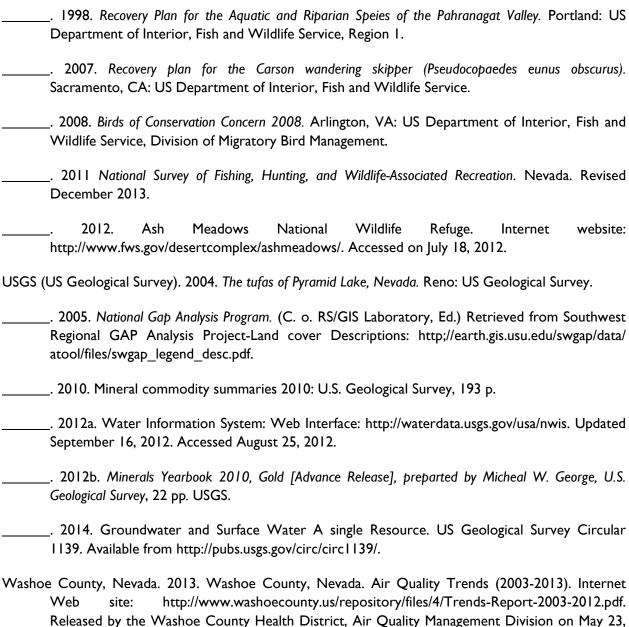


- Nevada Governor's Sage-Grouse Conservation Team. 2004. Greater Sage-Grouse Conservation Plan for Nevada and Eastern California. Internet website: http://www.ndow.org/wild/conservation/sg/plan.
- Nevada State Demographer's Office. 2011. Nevada County Population Projections, 2010 to 2030. October I, 2011. Internet Web Site: http://nvdemography.org/wpcontent/uploads/2011/09/2011-Projections-Email-attachment-090911.pdf. Accessed on May 29, 2012.
- Northeast California Sage-Grouse Working Group. 2006. Conservation Strategy for Sage-Grouse (Centrocercus urophasianus) and Sagebrush Ecosystems within the Massacre Population Management Unit.
- Northeast California Sage-Grouse Working Group. 2006. Conservation Strategy for Sage-Grouse (Centrocercus urophasianus) and Sagebrush Ecosystems within the Vya Population Management Unit.
- Omernik, J. 1987. Ecoregions of the conterminous United States. Map (scale 1:7,500,000). Annals of the Association of American Geographers, 77(1), 118-125.
- ONRR (Office of Natural Resources Revenue). 2012. Total Reported Royalty Revenues for Accounting Year 2011. County or Coastal Political Subdivision Disbursements Federal Onshore Geothermal Revenue by County for Fiscal Year 2011. Internet Web Site: http://www.onrr.gov/ONRRWebStats/ExportReport.aspx?report=StateOffshoreRegions&state= NV&name=Nevada&yeartype=FY&year=2010&datetype=AY. Accessed June 7, 2012.
- Ouren, D. S., C. Hass, C. P. Melcher, S. C. Stewart, P. D. Ponds, N. R. Sexton, L. Burris, T. Fancher, and Z. H. Bowen. 2007. Environmental effects of off-highway vehicles on Bureau of Land Management lands: A literature synthesis, annotated bibliographies, extensive bibliographies, and internet resources: United States Geological Survey Open-File Report 2007-1353. Available from http://www.fort.usgs.gov/products/publications/pub\_abstract.asp?PublD=22021.
- Outdoor Industry Foundation. 2007. State-Level Economic Contributions of Active Outdoor Recreation Technical Report on Methods and Findings. April 13, 2007. Prepared by Southwick Associates, Inc., for the Outdoor Industry Foundation. Available at: http://www.outdoorindustry.org/pdf/ResearchRecreationEconomyStateTechnicalReport.pdf. Accessed April 11, 2011.
- Overpeck, J., G. Garfin, A. Jardine, D. E. Busch, D. Cayan, M. Dettinger, E. Fleishman, A. Gershunov, G. MacDonald, K. T. Redmond, W. R. Travis, and B. Udall. 2013. "Summary for Decision Makers." In Assessment of Climate Change in the Southwest United States: A Report Prepared for the National Climate Assessment, edited by G. Garfin, A. Jardine, R. Merideth, M. Black, and S. LeRoy, I–20. A report by the Southwest Climate Alliance. Washington, DC: Island Press.
- Pellant, M. and C. Hall. 1994. Distribution of two exotic grasses on Intermountain rangelands: status in 1992. *Proceedings-ecology and management of annual rangelands* (pp. 109-112). U.S. Forest Service general tech report INT-GTR-313.

- Phillips, S. 2004. Windfalls for Wilderness: Land Protection and Land Value in the Green Mountains. Ph.D. Dissertation. Virginia Polytechnic Institute and State University, Blacksburg, VA.
- Pinno, Bradley D., and Scott D. Wilson. 2011. Ecosystem Carbon Changes with Woody Encroachment of Grassland in the Northern Great Plains. *Ecoscience* 18(2): 157-163.
- Peterson, E. B. 2008. A Synthesis of Vegetation Maps for Nevada (Initiating a 'Living' Vegetation Map). Carson City.
- Plumas County, California. 2012. Internet website: http://www.plumascounty.org/Default.htm. Accessed on July 25, 2012.
- Prevey, J. S., M. J. Germino, N. J. Huntly, and R. S. Inouye. 2010. Exotic plants increase and native plants decrease with loss of foundation species in sagebrush steppe. *Plant Ecology*, 39-51.
- Price, J. 2004. Geology of Nevada, Preprint from Castor, S.B., K.G., and Meeuwing, R.O., eds., 2004, Betting on Industrial Minerals, Proceedings of the 39th Forum on the Geology of Industrial Minerals, May 19-21, 2003, Sparks, NV, NBMG Special Pub. 33, 10 pp. Nevada: NBMG.
- Reisner, M. D., J. B. Grace, D. A. Pyke, P. S. Doescher. 2013. Conditions favouring Bromus tectorum dominance of endangered sagebrush steppe ecosystems. *Journal of Applied Ecology* 50 (4). p. 1-10.
- Responsive Management. 2009. Sport Shooters' and Archers' Attitudes on Shooting and Appropriate Behavior on Federal Lands and the Messages to which They Will Respond. January 2009.
- Rimbey, N. and L. A. Torell. 2011. Grazing Costs: What's the Current Situation? University of Idaho, College of Agricultural and Life Sciences. Agricultural Economics Extension Series No 2011-02. March 22, 2011.
- Rosenberg. 2011. Recreation Use Values Database. Database Overview. Internet website: http://recvaluation.forestry.oregonstate.edu. Accessed January 22, 2014.
- Rudzitis, G. and R. Johnson. 2000. The Impact of Wilderness and Other Wildlands on Local Economies and Regional Development Trends. In: McCool, Stephen F.; Cole, David N.; Borrie, William T.; O'Loughlin, Jennifer, comps. 2000. Wilderness science in a time of change conference—Volume 2: Wilderness within the context of larger systems; 1999 May 23–27; Missoula, MT. Proceedings RMRS-P-15-VOL-2. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.
- Savage, M. and T. Swetnam. 1990. Early 19th century fire decline. Ecology, 71: 2374-2378.
- Schroeder, M. J. 1999. Sage Grouse. In A. P. Gill (Ed.), *The birds of North American* (Vol. 425). Philadelphia, PA and Washington D.C.: The Academy of Natural Sciences and the American Ornithologists' Union.
- Scoppettone, G. A. 1991. Life history and management of four endangered lacustrine suckers. In W. M. Deacon (Ed.), *Battle Against Extinction: Native Fish Management in the American West* (pp. 359-77). Tuscon, AZ.

- Scudder, H. H. 1986. Report of a Paleontological Inventory of the Stewart Valley Fossil Area (Proposed as an Area of Critical Environmental Concern). Reno, NV: US Department of the Interior, Bureau of Land Management, Nevada State Office.
- Shaw, J. D., B. Steed, and L. DeBlander. 2005. Forest Inventory and Analysis (FIA) Annual Inventory Answers the Question; What is happening to pinyon-juniper woodlands? *Journal of Forestry*, 280-285.
- Sigler, W. A. 1987. Fishes of the Great Basin: a natural history. Reno, NV: University of Nevada Press.
- State of Nevada Sagebrush Ecosystem Program. 2014. Internet website: http://sagebrusheco.nv.gov/. Accessed on June 4, 2014.
- State of Nevada. 2012. Strategic Plan for Conservation of Greater Sage-Grouse. Governor's Sage-Grouse Advisory Committee. Carson City, NV, July 31, 2012.
- Storey County, Nevada. 2012. Internet website: http://www.storeycounty.org/. Accessed on July 24, 2012.
- Suring, L. H., M. M. Rowland, M. J. Wisdom, L. Schueck, and C. W. Meinke. 2005. Chapter 3: Vegetation Communities. In M. J. Wisdom, M. M. Rowland, and L. H. Suring, *Habitat Threat is the Sagebrush Ecosystem: Methods of Regional Assessment and Applications in the Great Basin* (pp. 94-113). Lawrence, KS: Alliance Communications Group.
- Svejcar, T. and R. J. Tausch. 1991. Anaho Island, Nevada: A relic area dominated by annual invader species. *Rangelands*, 233-236.
- Sveum, C. M., J. A. Crawford, and W. D. Edge. 1998. Nesting Habitat Selection by Sage Grouse in South-Central Washington. Journal of Range Management 51:265-269.
- SWRCB (California State Water Resources Control Board). 2008. Basin Plan Programs. Callifornia Environmental Protection Agency, State Water Resources Control Board internet website: http://www.waterboards.ca.gov/lahontan/water\_issues/programs/basin\_plan/index.shtml. Accessed February 21, 2012.
- \_\_\_\_\_\_. 2011. Information pertaining to water rights in California. Accessed Jaunary 31, 2012, from www.swrcb.ca.gov/waterrights.
- Swetman, T. W. and J. L. Betancourt. 1998. Mesoscale Disturbance and Ecological Response to Decadal Climactic Variability in the American Southwest. *Journal of Climate*, 3128-3147.
- Taylor, Frances R., Gillman, and Leah A. Pedrett, John W. 1989. *Impact of Cattle on Two Isolated Fish Populations in Pahranagat Valley, Nevada*. October 1989. Available online at https://journals.lib.byu.edu/spc/index.php/wnan/article/viewFilw/28762/27225. Accessed July 8, 2014.
- Tausch, R. J., R. F. Miller, B. A. Roundy, and J. C. Chambers. 2009. Piñon and juniper field guide: Asking the right questions to select appropriate management actions. US Geological Service.

- The Chamber, Reno-Sparks-Northern Nevada. 2012. Internet website: http://www.thechambernv.org/. Accessed on July 26, 2012.
- Theodore Roosevelt Conservation Partnership. 2013. GIS data of Back Country Wildlife Conservation Areas.
- USCB (US Census Bureau). 1980. 1980 Census of Population: General Population Characteristics, United States Summary. Internet Web site: http://www.census.gov/prod/www/abs/decennial/1980.html. Accessed on May 29, 2012.
- \_\_\_\_\_\_. 1990. 1990 Census of Population: General Population Characteristics, United States Summary. Internet Web site: http://www.census.gov/prod/www/abs/decennial/1990.html. Accessed on May 29, 2012.
- \_\_\_\_\_\_. 2000. Census 2000, Summary File 3, Table DP-3; generated by Lauren Zielinski; using American FactFinder: http://factfinder2.census.gov. Accessed June 1, 2012.
- \_\_\_\_\_\_. 2010a. 2010 Census Summary File 2; Table DP-1; generated by Lauren Zielinski; using American FactFinder: http://factfinder2.census.gov. Accessed May 29, 2012.
- \_\_\_\_\_\_. 2010b. 2010 Census Summary File 1; Table QT-H1; generated by Lauren Zielinski; using American FactFinder: http://factfinder2.census.gov. Accessed May 30, 2012.
- \_\_\_\_\_\_. 2010c. American Community Survey, 2010 American Community Survey 5-Year Estimates, Tables DP-02 and DP-03; generated by Lauren Zielinski; using American FactFinder; http://factfinder2.census.gov. Accessed June 1, 2012.
- . 2010d. Poverty Thresholds by Size of Family and Number of Children: 2010. Internet website: http://www.census.gov/hhes/www/poverty/data/threshld/. Accessed June 8, 2012.
- \_\_\_\_\_\_. 2012. State and County QuickFacts for Carson City, Churchill, Nye, Washoe, Storey, Douglas, Lyon, Mineral, Alpine, Lassen, and Plumas Counties. Last revised January 31, 2012. Internet Web site: http://quickfacts.census.gov/qfd/states/04000.html. Accessed on May 25, 2012.
- USDA (US Department of Agriculture). 2007. National Agricultural Statistics Service, Census of Agriculture, Washington, D.C., Tables 8 and 45.
- \_\_\_\_\_. Agricultural Research Service. 2013. Grazing Impacts on Water Quality. Available from http://www.ars.usda.gov/research/programs/programs.htm?np code=205&docid=336&page=2.
- US Drought Monitor. 2013. US Drought Monitor and National Drought Summary. Partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. Internet website: http://droughtmonitor.unl.edu/. Accessed May 28, 2013.
- USFWS (US Fish and Wildlife Service). 1995. Lahontan cutthroat trout, Oncorhynchus clarki henshawi, Recovery Plan. Portland: US Department of Interior, Fish and Wildlife Service.



- Released by the Washoe County Health District, Air Quality Management Division on May 23, 2013. Accessed on June 21, 2013.
- Western Regional Climate Center (WRCC). 2013. http://www.wrcc.dri.edu. Accessed on March 15, 2013.
- Wiedinmyer, C and M. D. Hurteau. 2010. Prescribing fire as a means of reducing forest carbon emissions in the Western United States. Environmental Science & Technology. 2010, 44, 1926-1932.
- Wisdom, M. J., and J. C. Chambers. 2009. A Landscape Approach for Ecologically Based Management of Great Basin Shrublands. Restoration Ecology, 740-749.

Young, J. A. and R. A. Evans. 1978. Population dynamics after wildfires in sagebrush-grasslands. *Journal of Range Management*, 283-289.

## CHAPTER 7 GLOSSARY

**Acquired lands.** Lands in federal ownership that are not public domain and that have been obtained by the government by purchase, condemnation, gift, or by exchange. Acquired lands are normally dedicated to a specific use or uses.

**Acquisition.** The process by which the BLM obtains land or interest in land into the public lands system.

**Active nest site.** A raptor nest site that is currently occupied by a pair of breeding raptors.

**Activity plan.** A type of implementation plan (see *Implementation plan*); an activity plan usually describes multiple projects and applies best management practices to meet land use plan objectives. Examples of activity plans include interdisciplinary management plans, habitat management plans, recreation area management plans, and grazing plans.

**Actual use.** The amount of animal unit months (AUMs) consumed by livestock based on the numbers of livestock and grazing dates submitted by the livestock operator and confirmed by periodic field checks by the BLM.

**Adaptive management.** A type of natural resource management in which decisions are made as part of an ongoing science-based process. Adaptive management involves testing, monitoring, and evaluating applied strategies, and incorporating new knowledge into management approaches that are based on scientific findings and the needs of society. Results are used to modify management policy, strategies, and practices.

**Administrative access.** Administrative access pertains to travel on routes that are limited to authorized users (typically motorized access). These are existing routes that lead to developments that have an administrative purpose, where the BLM or a permitted user must have access for regular maintenance or operation.

**Air basin.** A land area with generally similar meteorological and geographic conditions throughout. To the extent possible, air basin boundaries are defined along political boundary lines and include both the source and receptor areas.

**Air pollution.** Degradation of air quality resulting from unwanted chemicals or other materials occurring in the air.

Air quality classes. Classifications established under the Prevention of Significant Deterioration portion of the Clean Air Act, which limits the amount of air pollution considered significant within an area. Class I applies to areas where almost any change in air quality would be significant; Class II applies to areas where the deterioration normally accompanying moderate, well-controlled growth would be insignificant; and Class III applies to areas where industrial deterioration would generally be insignificant.

**Airshed.** A subset of air basin, the term denotes a geographical area that shares the same air because of topography, meteorology and climate.

**Allotment.** An area of land in which one or more livestock operators graze their livestock. Allotments generally consist of BLM-administered lands but may include other federally managed, state-owned, and private lands. An allotment may include one or more separate pastures. Livestock numbers and periods of use are specified for each allotment.

Allotment management plan (AMP). A concisely written program of livestock grazing management, including supportive measures if required, designed to attain specific, multiple-use management goals in a grazing allotment. An AMP is prepared in consultation with the permittee(s), lessee(s), and other affected interests. Livestock grazing is considered in relation to other uses of the range and to renewable resources, such as watershed, vegetation, and wildlife. An AMP establishes seasons of use, the number of livestock to be permitted, the range improvements needed, and the grazing system.

**All-terrain vehicle.** A motorized vehicle that is less than 50 inches in width and is capable of operating on roads, trails, or designated areas that are not maintained. A wheeled vehicle, other than a snowmobile, that has a wheelbase and chassis of 50 inches in width or less, generally has a dry weight of 800 to 1,200 pounds or less, and travels on 3 or more low-pressure tires.

**Alluvial soil.** A soil developing from recently deposited alluvium and exhibiting essentially no horizon development or modification of the recently deposited materials.

**Alluvium.** Clay, silt, sand, gravel, or other rock materials transported by moving water. Deposited in comparatively recent geologic time as sorted or semi-sorted sediment in rivers, floodplains, lakes, and shores, and in fans at the base of mountain slopes.

Alternate nest (inactive nest) site. A raptor nest site that has been used in the past by and within the territory of a breeding pair of raptors. The nest site still maintains the characteristics of a nest structure and habitat features of a nest site but is not currently in use.

**Alternative state.** A difference in the operation of one or more primary ecological processes including the water cycle, nutrient cycle, and the process of energy capture and transformation (energy flow).

**Ambient air quality.** The state of the atmosphere at ground level as defined by the range of measured and predicted ambient concentrations of all significant pollutants for all averaging periods of interest.

Analysis of the Management Situation (AMS). Assessment of the current management direction. It includes a consolidation of existing data needed to analyze and resolve identified issues, a description of current BLM management guidance, and a discussion of existing problems and opportunities for solving them.

**Animal Unit Month (AUM).** The amount of forage necessary for the sustenance of one cow or its equivalent for a period of one month.

**Aquatic.** Living or growing in or on the water.

Area of Critical Environmental Concern (ACEC). Special Area designation established through the BLM's land use planning process (43 CFR 1610.7-2) where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards. The level of allowable use within an ACEC is established through the collaborative planning process. Designation of an ACEC allows for resource use limitations in order to protect identified resources or values.

Assessment, Inventory, and Monitoring Strategy (AIMS). Initiated by the BLM, in part, to evaluate current monitoring activities and recommend procedures to improve the efficiency and effectiveness of these activities. To this end, the AIMS supports an integrated approach to document the distribution and abundance of natural resources on public lands; facilitate the description of resource conditions; and identify natural resource trends or changes. (From 'BLM Core Terrestrial Indicators and Methods, Technical Note 440, August 2011).

**Atmospheric deposition.** Air pollution produced when acid chemicals are incorporated into rain, snow, fog, or mist and fall to the earth, sometimes referred to as acid rain. Comes from sulfur oxides and nitrogen oxides, products of burning coal and other fuels and from certain industrial processes. If the acid chemicals in the air are blown into the area where the weather is wet, the acids can fall to earth in the rain, snow, fog, or mist. In areas where the weather is dry, the acid chemicals may become incorporated into dust or smoke.

At Risk. In the context of state and transition, a community in a certain state is at risk if it is nearing the threshold of transitioning to a less desirable state, but has not yet undergone that transition.

**Attainment area.** A geographic area in which levels of a criteria air pollutant meet the health-based National Ambient Air Quality Standard for that specific pollutant.

**Avoidance area.** See "Right-of-way avoidance area" definition.

**Backcountry.** Lands remote from development and typically difficult to access.

**Backcountry byway.** Vehicle routes that traverse scenic corridors using secondary or backcountry road systems. Backcountry byways fall into one of four categories from Type I, paved all weather roads, to Type 4, single track trails suitable only for dirt bikes and mountain bikes.

**Backcountry Byway Program.** The BLM's program for designation of scenic roads on public lands. Operates as a subcategory of the National Scenic Byways Program.

**Best Management Practice (BMP).** A method, process, or activity, or usually a combination of these, determined by a state or a designated planning agency to be the most effective and practicable means (including technological, economic, and institutional considerations) of managing or controlling particular conditions or circumstances. BMPs are a suite of voluntary, accepted measures that may or may not be applied to or enforced for any given project.

**Big game.** Indigenous, ungulate (hoofed) wildlife species that are hunted, such as elk, deer, bison, bighorn sheep, and pronghorn antelope.

**Biodiversity** (biological diversity). The variety of life and its processes, and the interrelationships within and among various levels of ecological organization. Conservation, protection, and restoration of biological species and genetic diversity are needed to sustain the health of existing biological systems. Federal resource management agencies must examine the implications of management actions and development decisions on regional and local biodiversity.

**Biological Opinion.** A document prepared by US Fish and Wildlife Service stating their opinion as to whether or not a federal action will likely jeopardize the continued existence or adversely modify the habitat of a listed threatened or endangered species.

**Biological soil crust.** A complex association between soil particles and cyanobacteria, algae, microfungi, lichens, and bryophytes that live within or atop the uppermost millimeters of soil.

**Birds of Conservation Concern.** Bird species considered for inclusion include nongame birds, game birds without hunting seasons, subsistence-hunted nongame birds in Alaska; and Endangered Species Act candidate, proposed endangered or threatened, and recently delisted species.

**BLM Sensitive Species.** Those species that are not federally listed as endangered, threatened, or proposed under the Endangered Species Act, but are designated by the BLM State Director under 16 USC 1536(a)(2) for special management consideration. By national policy, federally listed candidate species are automatically included as sensitive species. Sensitive species are managed so they will not need to be listed as proposed, threatened, or endangered under the Endangered Species Act.

**Boundary (Lands with Wilderness Characteristics).** The boundary of wilderness characteristics inventory units established using the presence of wilderness inventory roads, property lines, developed rights-of-way, and other substantially noticeable imprints of human activity.

**Broadcast burning.** Intentional burning in which fire is intended to spread over all of a specific area within well-defined boundaries.

Candidate species. Taxa for which the US Fish and Wildlife Service has sufficient information on their status and threats to propose the species for listing as endangered or threatened under the Endangered Species Act, but for which issuance of a proposed rule is currently precluded by higher priority listing actions. Separate lists for plants, vertebrate animals, and invertebrate animals are published periodically in the Federal Register (BLM Manual 6840, Special Status Species Manual).

Categorical Exclusion (CE). A category of actions (identified in agency guidance) that do not individually or cumulatively have a significant effect on the human environment, and for which neither an environmental assessment nor an environmental impact statement is required (40 CFR 1508.4), but a limited form of NEPA analysis is performed.

**Causal Factor.** A factor in the failure to achieve the standards for rangeland health and conform to the guidelines. A causal factor, if modified would enable an area to achieve or make significant progress toward achieving the standards for rangeland health.

**Casual use.** Activities ordinarily resulting in no or negligible disturbance of the public lands or resources. Actions determined to fall under "casual use" do not require any sort of authorization.

**Cave.** Any naturally occurring void, cavity, recess, or system of interconnected passages beneath the surface of the earth or within a cliff or ledge, including any cave resource therein, and which is large enough to permit a person to enter, whether the entrance is excavated or naturally formed. Such term shall include any natural pit, sinkhole, or other feature that is an extension of a cave entrance or which is an integral part of the cave.

**Cave Resource.** Any material or substance occurring in caves on federal lands, including, but not limited to, biotic, mineralogic, paleontological, geologic, hydrologic, or cultural resources.

**Certified weed-free seed.** Certification provides assurance that the field was inspected based upon a reasonable and prudent visual inspection by a certified inspector, and no noxious weeds were detected.

**Chemical vegetation treatment**. Application of herbicides to control invasive species, noxious weeds, and unwanted vegetation.

**Citizen Wilderness Proposal.** Areas that have been inventoried and proposed for Wilderness designation by citizens.

Clean Air Act (CAA) of 1963 and amendments. Federal legislation governing air pollution control.

Climate change. Any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun; natural processes within the climate system (e.g., changes in ocean circulation); and human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, or desertification).

Closed area. An area where one or more uses are prohibited either temporarily or over the long term. Areas may be closed to uses such as, but not limited to, off-road vehicles, mineral leasing, and mineral or vegetative material collection. In off-road vehicle use closed areas, motorized and mechanized off-road vehicle use is prohibited. Use of motorized and mechanized off-road vehicles in closed areas may be allowed for certain reasons; however, such use shall be made only with the approval of the authorized officer (43 CFR 8340.0-5).

**Collaboration.** A cooperative process in which interested parties, often with widely varied interests, work together to seek solutions with broad support for managing public and other lands. Collaboration may take place with any interested parties, whether or not they are a cooperating agency.

**Collaborative partnerships.** Refers to people working together, sharing knowledge and resources, to achieve desired outcomes for public lands and communities within statutory and regulatory frameworks.

**Commercial use.** The collection of vegetative products for the purpose of resale.

**Community phase.** In the context of state and transition modeling, one of multiple phases within a state that describes the dynamic vegetative property transitions within the state.

Condition class (fire regimes). Fire regime condition classes are a measure describing the degree of departure from historical fire regimes, possibly resulting in alterations of key ecosystem components, such as species composition, structural stage, stand age, canopy closure, and fuel loadings. One or more of the following activities may have caused this departure: fire suppression, timber harvesting, livestock grazing, introduction and establishment of exotic plant species, introduced insects or disease, or other management activities.

**Condition of approval (COA).** Condition or provision (requirement) under which an application for a permit to drill or sundry notice is approved.

**Conformance.** A proposed action shall be specifically provided for in the land use plan or, if not specifically mentioned, shall be clearly consistent with the goals, objectives, or standards of the approved land use plan.

**Control Method.** Weed control methods, which include mechanical (digging or mowing), biological (livestock grazing, bio-pathogens or predator species), and chemical (BLM-approved herbicides and additives) treatments that may be used alone or in combination.

Controlled Surface Use (CSU). A category of moderate constraint stipulations that allows some use and occupancy of public land while protecting identified resources or values and is applicable to fluid mineral leasing and all activities associated with fluid mineral leasing (e.g., truck-mounted drilling and geophysical exploration equipment off designated routes, construction of wells or pads). Areas managed with CSUs are open to fluid mineral leasing but the stipulation allows the BLM to require special operational constraints, or the activity can be shifted more than 200 meters (656 feet) to protect the specified resource or value.

**Construction.** The phase of an authorization in which facilities are built on public land such as roads, pipelines, and transmission lines.

**Cooperating Agency.** Assists the lead federal agency in developing an environmental assessment or environmental impact statement. These can be any agency with jurisdiction by law or special expertise for proposals covered by NEPA (40 CFR 1501.6). Any tribe or federal, state, or local government jurisdiction with such qualifications may become a cooperating agency by agreement with the lead agency.

**Corridor.** A strip of land that aids in the movement of species between disconnected core areas of their natural habitat.

**Council on Environmental Quality (CEQ).** An advisory council to the President of the US established by the National Environmental Policy Act of 1969. It reviews federal programs to analyze and interpret environmental trends and information.

**Criteria pollutant.** Indicators of air quality established by the Environmental Protection Agency (EPA). The EPA has established a maximum concentration for each of the six pollutants, above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards. The criteria pollutants are ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter, and lead.

Critical habitat. (1) The specific areas within the geographical area currently occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection, and (2) specific areas outside the geographical area occupied by a species at the time it is listed upon determination by the US Fish and Wildlife Service and/or National Marine Fisheries Service that such areas are essential for the conservation of the species. Critical habitats are designated in 50 CFR Parts 17 and 226. The constituent elements of critical habitat are those physical and biological features of designated or proposed critical habitat essential to the conservation of the species, including, but not limited to: (1) space for individual and population growth, and for normal behavior; (2) food, water, air, light, minerals, or other nutritional or physiological requirements; (3) cover or shelter; (4) sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and (5) habitats

that are protected from disturbance or are representative of the historical geographic and ecological distributions of a species (BLM Manual 6840).

**Critical natural and cultural resources.** Plant, wildlife, and cultural resources at risk of irreparable harm as a result of wildfire. Critical natural and cultural resources include but are not limited to sites eligible for inclusion in the National Register of Historic Places and wildlife priority habitats.

**Crucial habitat.** Habitat that is vital to the continued existence of a population.

**Cultural resource high priority sites.** Those historic properties identified as being in some danger of modification (e.g., vandalism, erosion, or heavy visitation) that would alter the site's integrity and eligibility or potential eligibility for listing on the National Register of Historic Places.

**Cultural resources.** Locations of human activity, occupation, or use. Cultural resources include archaeological, historic, or architectural sites, structures, or places with important public and scientific uses, and locations of traditional cultural or religious importance to social and/or cultural groups.

Cultural resources inventory. An inventory to assess the presence of historic properties.

**Cumulative effects.** The direct and indirect effects of a proposed project alternative's incremental impacts when they are added to other past, present, and reasonably foreseeable actions, regardless of who carries out the action.

**Decision area.** Lands and federal mineral estate within the planning area that are administered by the BLM.

**Deferred rotation.** Rotation grazing with regard to deferring pastures beyond the growing season, if they were used early the prior year, or that have been identified as needing deferment for resource reasons.

**Desired Future Condition (DFC).** For rangeland vegetation, the condition of rangeland resources on a landscape scale that meet management objectives. It is based on ecological, social, and economic considerations during the land planning process, and is usually expressed as ecological status or management status of vegetation (species composition, habitat diversity, and age and size class of species) and desired soil qualities (soil cover, erosion, and compaction). In a general context, desired future condition is a portrayal of the land or resource conditions that are expected to result if goals and objectives are fully achieved.

**Desired plant community (DPC).** One of several plant community types that may occupy an ecological site, the one that meets at least the minimum quality criteria for the soil, water, air, plant, and animal resources, and meets the planned objectives for the use.

**Desired outcomes.** A type of land use plan decision expressed as a goal or objective.

**Direct effect.** Those effects caused by the action and occur at the same time and place.

**Directional drilling.** A drilling technique whereby a well is deliberately deviated from the vertical in order to reach a particular part of the oil- or gas-bearing reservoir. Directional drilling technology enables the driller to steer the drill stem and bit to a desired bottom hole location. Directional wells initially are drilled straight down to a predetermined depth and then gradually curved at one or more different points to penetrate one or more given target reservoirs. This specialized drilling usually is accomplished with the use of a fluid-driven downhole motor, which turns the drill bit. Directional drilling also allows multiple production and injection wells to be drilled from a single surface location such as a gravel pad, thus minimizing cost and the surface impact of oil and gas drilling, production, and transportation facilities. It can be used to reach a target located beneath an environmentally sensitive area (Alaska Department of Natural Resources, Division of Oil and Gas 2009).

**Discretionary Action.** A non-mandatory course of action using elements of judgment and choice by an authorized individual that is not spelled out in advance by federal statute, regulation, or policy.

**Dispersed Recreation.** Any recreational activity that takes place in areas with minimal or no facilities or services.

**Disposal.** The act of conveying federal interest in public land to a non-federal party through sale, exchange, the Recreation and Public Purposes Act, Desert Land Entry, or other land law statute.

**Disposal lands.** Those public lands that are identified in a Land Use Plan for the possibility of transfer out of federal ownership.

**Disturbance activities.** Any actions that could result in the displacement or disturbance of wildlife (e.g. vehicle travel, removal of vegetation, noise, and development).

**Diverse stabilizing species.** Obligate and facultative species that can improve riparian/stream health and the sustainability of values (such as fish and wildlife habitat, livestock forage and aesthetics) and provide: rooting strength to prevent bank erosion that can fill gravel beds with fine sediment; roughness for dissipating energies of water; filtering of runoff from adjacent lands of eroded sediment, nutrients and bacteria; water storage and aquifer recharge; shading necessary to retard heating and help maintain cooler water temperatures; and the source of large woody debris in higher gradient reaches that dissipates energy and helps retain spawning gravels, contributes to pool formation, provides critical in-stream structure and helps moderate summer water temperature.

**Domestic well.** A well serving up to 3 single-family dwellings, irrigating I acre or less of lawn and garden, and providing water for the individual's domestic animals and livestock.

**Easement.** An easement is a right to use someone else's land for a specific purpose.

**Ecological threshold.** Thresholds are points in space and time at which one or more of the primary ecological processes responsible for maintaining the sustained equilibrium of the state degrades beyond the point of self-repair.

**Education.** A learning process that increases people's knowledge and awareness about environmental and heritage resources and their associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations, and commitments to make informed decisions and take responsible action.

**Eligible river.** A river that qualifies for inclusion into the National Wild and Scenic River System through professional judgment that it is free flowing and, with its adjacent land area, possesses at least one river-related value considered to be outstandingly remarkable (M-8351, BLM Wild and Scenic River Policy and Program).

**Emergency Stabilization (ES).** Planned actions to stabilize and prevent unacceptable degradation to natural and cultural resources, to minimize threats to life or property resulting from the effects of a fire, or to repair/replace/construct physical improvements necessary to prevent degradation of land or resources. Emergency stabilization actions must be taken within one year following containment of a wildfire.

**Emergency Stabilization Plan.** A site-specific document that specifies treatments required to implement post-fire emergency stabilization policies.

**Endangered species.** Any species that is in danger of extinction throughout all or a significant portion of its range (BLM Manual 6840, Special Status Species Manual). Under the Endangered Species Act in the US, "endangered" is the more-protected of the two categories. Designation as endangered (or threatened) is determined by US Fish and Wildlife Service as directed by the Endangered Species Act.

**Endangered Species Act of 1973 (ESA).** Designed to protect and recover imperiled species and the ecosystems upon which they depend (16 USC 1531-1544). The ESA is administered by two federal agencies, US Fish and Wildlife Service and the National Marine Fisheries Service.

**Environmental assessment (EA).** A concise public document prepared to provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact. It includes a brief discussion of the need for the proposal, alternatives considered, environmental impact of the proposed action and alternatives, and a list of agencies and individuals consulted.

**Environmental impact statement (EIS).** A detailed statement prepared by the responsible official in which a major federal action that significantly affects the quality of the human environment is described, alternatives to the proposed action are provided, and effects are analyzed.

**Exception.** An exception exempts the holder of the land use authorization document from the stipulation on a one-time basis for a particular site within the leasehold or project area. The standard exception applies to all No Surface Occupancy, Controlled Surface Use, and Timing Limitation stipulations. Exceptions are determined on a case-by-case basis and may be granted by the Authorized Officer if it can be demonstrated that the surface-disturbing activity would not cause adverse impacts; have no measurable impacts; or not interfere with fire suppression or health and safety objectives. In situations where an activity is excepted from a lease

stipulation, the activity could be subject to additional conditions of approval, reclamation measures, or best management practices. Measures required would be based on the nature and extent of resource values potentially affected by the surface-disturbing activity. Excepted lease stipulations are granted on a one-time case-by-case basis and will not necessarily constitute subsequent approvals.

**Exchange.** A transaction whereby the federal government receives land or interests in land in exchange for other land or interests in land.

**Exclusion area.** See "Right-of-way exclusion area" definition.

**Existing routes.** The roads, trails, or ways that are used by motorized vehicles (e.g., jeeps, all-terrain vehicles, and motorized dirt bikes), mechanized uses (e.g., mountain bikes, wheelbarrows, and game carts), pedestrians (e.g., hikers), and/or equestrians and are, to the best of the BLM's knowledge, in existence at the time of RMP/EIS publication.

**Extensive Recreation Management Area (ERMA).** Administrative units that require specific management consideration in order to address recreation use, demand, or Recreation and Visitor Services program investments. ERMAs are managed to support and sustain the principal recreation activities and the associated qualities and conditions of the ERMA. ERMA management is commensurate and considered in context with the management of other resources and resource uses.

**Federal Land Policy and Management Act of 1976 (FLPMA).** Public Law 94-579, October 21, 1976, often referred to as the BLM's "Organic Act," which provides most of the BLM's legislated authority, direction policy, and basic management guidance (BLM National Management Strategy for OHV Use on Public Lands).

**Federal mineral estate.** Subsurface mineral estate owned by the US and administered by the BLM.

Fire frequency. A general term referring to the recurrence of fire in a given area over time.

**Fire Management Category A.** Those areas where wildfires are not wanted. These areas include threatened and endangered species habitat and the urban/wildland interface.

**Fire Management Category B.** Those areas where wildfires are not wanted, but if fires occur and escape initial attack, management options, on how to suppress the fire is available.

**Fire Management Category C.** Those areas where fire has a significant role in the environment, and wildfires should be used to accomplish resource management goals.

**Fire Management Category D.** Those areas where wildfires should be allowed to burn in a mostly unrestricted fashion to achieve resource objectives.

**Fire Management Plan (FMP).** A plan that identifies and integrates all wildland fire management and related activities within the context of approved land/resource management plans. It defines a program to manage wildland fires (wildfire, prescribed fire, and wildland fire

use). The plan is supplemented by operational plans including, but not limited to, preparedness plans, preplanned dispatch plans, and prevention plans. FMPs assure that wildland fire management goals and components are coordinated.

**Fire retardant.** A substance other than water that reduces flammability of fuels or delays their combustion. Fire retardants applied to wildfires are usually a mixture of water and chemicals designed to wet the area as well as chemically retard a fires progression through vegetation. Typically it is colored so that the application area can be seen from the air.

**Fire suppression.** All work and activities connected with control and fire-extinguishing operations, beginning with discovery and continuing until the fire is completely extinguished.

**Fish and wildlife priority habitat.** Habitat critical to the life processes/stages of terrestrial, aquatic, and semi-aquatic species (e.g. Important Bird Areas (IBAs); key breeding, nesting, spawning, birthing, and young/brood-rearing areas; crucial summer and winter habitat; critical habitat; and important migration corridors).

**Floodplain.** Topographically, flat land adjacent to a stream; geomorphically, landforms composed primarily of unconsolidated depositional material (sediments) derived from the stream; hydrologically, landforms subject to periodic flooding by the stream.

Fluid minerals. Oil, gas, coal bed natural gas, and geothermal resources.

Fluvial. Of or pertaining to rivers or produced by the action of rivers or streams.

Forage. All browse and herbaceous foods that are available to grazing animals.

**Four-wheel drive vehicle.** A passenger vehicle or truck having power available to all wheels. Any motorized vehicle that has generally higher clearance than a passenger car and has traction on all four wheels.

**Fragile soils.** Soils having a shallow depth to bedrock, minimal surface layer of organic material, textures that are more easily detached and eroded, or are on slopes over 35 percent.

Free use permits. Governmental units (federal, state, and local), nonprofit organizations, and certain mining claimants which do not qualify for free use permits under the provisions of 43 CFR 5511.1 may qualify under 43 CFR 5511.3 for a special permit to remove vegetative products free of charge if it is used for public interest.

**Front Country.** Outdoor areas that are easily accessible by vehicle and mostly visited by day users.

**Geographic Information System (GIS).** A system of computer hardware, software, data, people, and applications that capture, store, edit, analyze, and display a potentially wide array of geospatial information.

**Geophysical exploration.** Efforts to locate deposits of oil and gas resources and to better define the subsurface.

**Geothermal energy.** Natural heat from within the Earth captured for production of electric power, space heating, or industrial steam.

**Goal.** A broad statement of a desired outcome; usually not quantifiable and may not have established timeframes for achievement.

**Government to Government Consultation.** Communication between the tribal council, or council member designated to represent the council, and an appointed line officer of the BLM who is knowledgeable about the project and who is authorized to speak for the federal government.

**Grandfathered right.** The right to use in a non-conforming manner due to existence prior to the establishment of conforming terms and conditions.

**Grass bank/Reserve Allotment.** A parcel of land for which a term livestock grazing permit has not been issued but is available for livestock grazing authorization under special circumstances. Those circumstances may include but are not limited to instances where livestock grazing on permitted allotments is not available in a given year due to drought conditions or post fire rehabilitation and/or vegetation treatment grazing deferrals.

**Grazing preference.** Grazing preference or preference means a superior or priority position compared to others for the purpose of receiving a grazing permit or lease. This priority is attached to base property owned or controlled by a permittee or lessee (43 CFR 4100.0-5).

**Groundwater.** Water held underground in soil or permeable rock, often feeding springs and wells.

**Growth medium characterization.** An evaluation of soils consisting of obtaining representative soil samples from the reclamation area to assess the surface and subsurface conditions of the soils. Soil conditions are evaluated by completing laboratory tests to determine the physical and chemical characteristics of the soils and evaluate suitability for growth medium and determine if there is any need for soil amendments to improve the success of reclamation.

**Guidelines.** Actions or management practices that may be used to achieve desired outcomes, sometimes expressed as best management practices. Guidelines may be identified during the land use planning process, but they are not considered a land use plan decision unless the plan specifies that they are mandatory. Guidelines for grazing administration must conform to 43 CFR 4180.2.

**Guidelines for Rangeland Health.** A grazing practice, method or technique determined by the authorized officer to be appropriate to ensure that standards can be met or that significant progress can be made toward meeting the standard.

**Guzzler.** General term covering guzzler, wildlife drinker, or tenaja. A natural or artificially constructed structure or device to capture and hold rain water, and make it accessible to small and/or large animals. Most guzzlers involve above- or below-ground piping, storage tanks, and

valves. Tenajas are natural depressions in rock, which trap and hold water. To some guzzlers, steps or ladders are sometimes added to improve access and reduce mortality from drowning.

**Habitat.** An environment that meets a specific set of physical, biological, temporal, or spatial characteristics that satisfy the requirements of a plant or animal species or group of species for part or all of their life cycle.

**Habitat Management Plan (HMP).** A written and approved activity plan for a geographical area which identifies habitat management activities to be implemented in achieving specific objectives of planning decisions.

**Hazardous material.** A substance, pollutant, or contaminant that, due to its quantity, concentration, or physical or chemical characteristics, poses a potential hazard to human health and safety or to the environment if released into the workplace or the environment.

**Herd area (HA).** An area that contained wild horses or burros that were inventoried and mapped based on the requirements set forth with passage of the Wild Free-Roaming Horses and Burros Act of 1971.

**Herd management area (HMA).** Public land under the jurisdiction of the BLM that has been designated for special management emphasizing the maintenance of an established wild horse or burro herd.

**Historic properties.** All prehistoric, historic and ethnographic sites, buildings, structures, or objects that are eligible for inclusion on the National Register of Historic Places or that are unevaluated.

Horizontal drilling. A more-specialized type of directional drilling that allows a single well bore at the surface to penetrate oil- or gas-bearing reservoir strata at angles that parallel or nearly parallel the dip of the strata. The well bore is then open and in communication with the reservoir over much longer distances. In development wells, this can greatly increase production rates of oil and gas or volumes of injected fluids. Horizontal drilling may involve underbalanced drilling, coiled tubing, bit steering, continuous logging, multilateral horizontals, and horizontal completions. Lateral step-outs are directional wells that branch off a main borehole to access more of the subsurface. Conditions for successful horizontal wells include adequate pre-spud planning, reservoir descriptions, drillable strata that will not collapse, and careful cost control (Alaska Department of Natural Resources, Division of Oil and Gas 2009).

**Impact.** The effect, influence, alteration, or imprint caused by an action. Can be used synonymously with "effect."

**Impairment.** The degree to which a distance of clear visibility is degraded by human-made pollutants.

**Implementation decisions.** Decisions that take action to implement land use planning; generally appealable to Interior Board of Land Appeals under 43 CFR 4.410.

**Implementation plan.** An area or site-specific plan written to implement decisions made in a land use plan. Implementation plans include both activity plans and project plans.

**Indian Trust Assets.** Lands, natural resources, money, or other assets held by the federal government in trust or that are restricted against alienation for tribes and individual Native Americans.

**Indirect effects.** Those effects caused by the action that are later in time or farther in distance, but are still reasonably foreseeable.

Intermittent stream. An intermittent stream is a stream that flows only at certain times of the year when it receives water from springs or from some surface sources such as melting snow in mountainous areas. During the dry season and throughout minor drought periods, these streams will not exhibit flow. Geomorphological characteristics are not well defined and are often inconspicuous. In the absence of external limiting factors, such as pollution and thermal modifications, species are scarce and adapted to the wet and dry conditions of the fluctuating water level.

**Interpretation.** A mission based communication process that forges emotional and intellectual connections between the interests of the audience and meanings inherent in the resource.

**Invasive species.** A species that is not native to the region or area and who's introduction does or is likely to cause economic or environmental harm or harm to human health.

**Invertebrate.** An animal lacking a backbone or spinal column, such as insects, snails, and worms. The group includes 97 percent of all animal species.

**Issues of Tribal Concern (Tribal concerns).** Sacred sites, areas of religious and traditional importance, hunting grounds, medicinal and other plant gathering areas, cultural resource locations and sites that have any historical and cultural significance.

**K** factor. A soil erodibility factor used in the universal soil loss equation that is a measure of the susceptibility of soil particles to detachment and transport by rainfall and runoff. Estimation of the factor takes several soil parameters into account, including soil texture, percent of sand greater than 0.10 millimeter, soil organic matter content, soil structure, soil permeability, clay mineralogy, and coarse fragments. K factor values range from 0.02 to 0.64, the greater values indicating the highest susceptibilities to erosion.

**Key Species.** A single plant species (or in some situations two or three similar species) chosen to serve as a guide to the grazing use of the entire plant community. If the key species on the key grazing area is properly grazed, the entire plant community will not be excessively grazed.

Lacustrine. Pertaining to, produced by, or inhabiting a lake environment.

**Land classification.** The process of determining a specific use for certain public lands. Classification actions may include segregation from other uses, such as mineral entry.

**Land health condition.** A classification for land health which includes these categories: Meeting Land Health Standard(s) and Not Meeting Land Health Standard(s).

- Meeting Land Health Standard(s): Lands for which health indicators are currently in acceptable condition such that basic levels of ecological processes and functions are in place. This rating includes the following subcategories:
  - Fully Meeting Standard(s): Lands for which there are no substantive concerns with health indicators
  - Exceeding Standard(s): Lands for which health indicators are in substantially better conditions than acceptable levels.
  - Meeting Standard(s) with Problems: Lands which have one or more concerns with health indicators to the degree that they are categorized as meeting the Land Health Standards, but have some issues which make them at risk of becoming "not meeting."
- Not Meeting Land Health Standard(s): Lands for which one or more health indicators are in unacceptable conditions such that basic levels of ecological processes and functions are no longer in place.

Land health trend is used to describe these classes further. It includes these categories: upward, static, and downward.

- Upward Trend: lands which have shown improving indicator conditions over time.
- Static Trend: lands which have shown no clear improvement or decline in indicator conditions over time.
- Downward Trend: lands which have shown declining indicator conditions over time.

Land tenure adjustments. Jurisdictional or ownership changes in public land. Tenure is derived from the Latin word tenet meaning "to hold," so land tenure describes the way in which land is held. These adjustments are accomplished through such actions as disposals, acquisitions, or withdrawals.

**Land treatment.** All methods of artificial range improvement arid soil stabilization such as reseeding, brush control (chemical and mechanical), pitting, furrowing, and water spreading.

Land use allocation. The identification in a land use plan of the activities and foreseeable development that are allowed, restricted, or excluded for all or part of the planning area, based on desired future conditions (H-1601-I, BLM Land Use Planning Handbook).

Land use plan. A set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of FLPMA; an assimilation of land use plan level decisions developed through the planning process outlined in 43 CFR 1600, regardless of the scale at which the decisions were developed. The term includes both RMPs and management framework plans (from H-1601-1, BLM Land Use Planning Handbook).

**Land use plan decision.** Establishes desired outcomes and actions needed to achieve them. Decisions are reached using the planning process in 43 CFR 1600. When they are presented to the public as proposed decisions, they can be protested to the BLM Director. They are not appealable to Interior Board of Land Appeals.

Late season. Late summer or fall grazing.

**Leasable minerals.** Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. These include energy-related mineral resources such as oil, natural gas, coal, and geothermal, and some non-energy minerals, such as phosphate, sodium, potassium, and sulfur. Geothermal resources are also leasable under the Geothermal Steam Act of 1970.

**Lease.** A contract granting possession or control of real property for a determined period. The BLM employs numerous types of leases under different laws and statues including but not limited to communication use leases, mineral leases, and grazing leases.

Lease notice. Provides more-detailed information concerning limitations that already exist in law, lease terms, regulations, or operational orders. A lease notice also addresses special items that lessees should consider when planning operations but does not impose additional restrictions. Lease notices are not an RMP-level decision, and new lease notices may be added to fluid mineral leases at the time of sale. Lease notices apply only to leasable minerals (e.g., oil, gas, geothermal) and not to other types of leases, such as livestock grazing.

**Lease stipulation.** A modification of the terms and conditions on a standard lease form at the time of the lease sale.

**Lek.** An assembly area where birds, especially sage-grouse, carry on display and courtship behavior.

**Lentic.** Pertaining to standing water such as lakes and ponds.

**Lithic site.** An archaeological site containing debris left from the manufacture, use, or maintenance of stone tools and/or including ground stone implements.

**Livestock carrying capacity.** The maximum stocking rate possible without inducing damage to vegetation or related resources. It may vary from year to year on the same area due to fluctuating forage production.

**Livestock kind.** Species of domestic livestock such as cattle, sheep, horses, or goats.

**Locatable minerals.** Minerals subject to exploration, development, and disposal by staking mining claims as authorized by the Mining Law of 1872, as amended. This includes deposits of gold, silver, and other uncommon minerals not subject to lease or sale.

**Long-term effect.** The effect could occur for an extended period after implementation of the alternative. The effect could last several years or more.

**Low-power communication site.** Sites that include non-broadcast uses (e.g., commercial or private mobile radio service, cellular telephone, microwave, local exchange network, passive reflector).

**Maintenance.** The phase of an authorization in which facilities have been built on public land and are being utilized and upkept.

**Management decision.** A decision made by the BLM to manage public lands. Management decisions include both land use plan decisions and implementation decisions.

**Master development plan.** Information common to multiple planned wells, including drilling plans, Surface Use Plans of Operations, and plans for future production.

**Mechanical transport.** Any vehicle, device, or contrivance for moving people or material in or over land, water, snow, or air that has moving parts.

**Mechanical vegetation treatment**. Includes mowing, chaining, chopping, drill seeding, and cutting vegetation to meet resource objective. Mechanical treatments generally occur in areas where fuel loads or invasive species need to be reduced prior to prescribed fire application; when fire risk to resources is too great to use naturally started wildland fires or prescribed fires; or where opportunities exist for biomass utilization or timber harvest. Mechanical treatments may also be utilized to improve wildlife habitat conditions.

**Mechanized uses.** Equipment that is mechanized, including but not limited to mountain bikes, wheelbarrows, and game carts.

**Megaannum (Ma).** A unit of time equal to one million years.

**Mineral.** Any naturally formed inorganic material, solid or fluid inorganic substance that can be extracted from the earth, any of various naturally occurring homogeneous substances (as stone, coal, salt, sulfur, sand, petroleum, water, or natural gas) obtained usually from the ground. Under federal laws, considered as locatable (subject to the general mining laws), leasable (subject to the Mineral Leasing Act of 1920), and salable (subject to the Materials Act of 1947).

**Mineral entry.** The filing of a claim on public land to obtain the right to any locatable minerals it may contain.

**Mineral estate.** The ownership of minerals, including rights necessary for access, exploration, development, mining, ore dressing, and transportation operations.

**Mineralize.** The process where a substance is converted from an organic substance to an inorganic substance.

Mineral materials (salable minerals, salable mineral materials). Common varieties of mineral materials such as soil, sand and gravel, stone, pumice, pumicite, and clay that are not obtainable under the mining or leasing laws but that can be acquired under the Materials Act of 1947, as amended.

**Mineral patent.** A claim on which title has passed from the federal government to the mining claimant under the Mining Law of 1872.

**Minimum Impact Suppression Tactics (MIST).** The use of fire management tactics commensurate with the fire's potential or existing behavior while producing the least impact on the resource being protected.

**Mining claim.** A parcel of land that a miner takes and holds for mining purposes, having acquired the right of possession by complying with the Mining Law and local laws and rules. A mining claim may contain as many adjoining locations as the locator may make or buy. There are four categories of mining claims: lode, placer, millsite, and tunnel site.

**Mining Law of 1872.** Provides for claiming and gaining title to locatable minerals on public lands. Also referred to as the General Mining Laws or Mining Laws.

**Mitigation.** Alleviation or lessening of possible adverse effects on a resource by applying appropriate protective measures or adequate scientific study. Mitigation may be achieved by avoidance, minimization, rectification, reduction, and compensation.

**Modification.** A modification changes the language or provisions of a surface stipulation, either temporarily or for the term of the lease or project. A 30-day public notice and comment period is required before modification of a stipulation.

**Monitoring (plan monitoring).** The process of tracking the implementation of land use plan decisions and collecting and assessing data necessary to evaluate the effectiveness of land use planning decisions.

**Motocross facility.** Venue that facilitates competitive motocross racing and spectating in a controlled setting. Venue layout provides for public health and safety and track design(s) conform to uniform or industry standards. Routine maintenance is provided for the venue.

**Motocross track.** High speed motorcycle course characterized by winding paths augmented with super elevated sharp turns and jumps where natural elevated features exist. Tracks are randomly established through repetitive, intense motorcycle use over relatively short periods of time. Tracks generally do not conform to any uniform or industry standards and are constantly changing over time.

**Motorcycle.** A motorized vehicle with two tires and with a seat designed to be straddled by the operator.

**Motorized vehicles or uses.** Vehicles that are motorized, including but not limited to jeeps, off-highway vehicles (all-terrain vehicles, such as four-wheelers and three-wheelers), trail motorcycles or dirt bikes, and aircrafts.

**Multiple-use.** The management of the public lands and their various resource values so that they are used in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources

or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output (Federal Land Policy and Management Act; BLM Manual 6840, Special Status Species Manual).

**Municipal watershed.** A watershed area that provides water for use by a municipality as defined by the community and accepted by the state.

**National Environmental Policy Act of 1969 (NEPA).** Public Law 91-190. Establishes environmental policy for the nation. Among other items, NEPA requires federal agencies to consider environmental values in decision-making processes.

**National Historic Trail (NHT) corridor.** Allocation established through the land use planning process, pursuant to Section 202 of Federal Land Policy and Management Act and Section 7(a)(2) of the National Trails System Act for a public land area of sufficient width within which to encompass National Trail resources, qualities, values, and associated settings and the primary use or uses that are present or to be restored.

**National Register of Historic Places.** A listing of architectural, historical, archaeological, and cultural sites of local, state, or national significance established by the National Historic Preservation Act of, 1966 and maintained by the National Park Service.

National Wild and Scenic Rivers System (NWSRS). A system of nationally designated rivers and their immediate environments that have outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, and other similar values and are preserved in a free-flowing condition. The system consists of three types of streams: (1) recreation—rivers or sections of rivers that are readily accessible by road or railroad and that may have some development along their shorelines and may have undergone some impoundments or diversion in the past; (2) scenic—rivers or sections of rivers free of impoundments with shorelines or watersheds still largely undeveloped but accessible in places by roads; and (3) wild—rivers or sections of rivers free of impoundments and generally inaccessible except by trails, with watersheds or shorelines essentially primitive and waters unpolluted.

**Native species or vegetation.** A species found in a given region or ecosystem that is the result of natural processes, with no human intervention.

**Naturalness (ecological).** Consistent with what would occur without human intervention. For vegetation structure, naturalness implies a pattern similar to what fire and climate would produce across the landscape.

**Naturalness (wilderness).** The degree to which an area generally appears to have been affected primarily by the forces of nature with the imprint of people's work substantially unnoticeable.

**Natural processes.** Fire, drought, insect and disease outbreaks, flooding, and other events which existed prior to European settlement, and shaped vegetation composition and structure.

No Ground Disturbance (NGD). Areas restricted by NGD are closed to all surface-disturbing activities. Activities that are not considered surface disturbing include, but are not limited to, livestock grazing, cross-country hiking or equestrian use, installing signs, minimum impact filming, vehicular travel on designated routes, and use of the land by wildlife. An NGD stipulation cannot be applied to operations conducted under the 1872 Mining Law without a withdrawal. A withdrawal is not considered a land use planning decision because it must be approved by the Secretary of Interior. Therefore, unless withdrawn, areas identified as NGD are open to operations conducted under the mining laws subject only to timing limitation and controlled surface use stipulations that are consistent with the rights granted under the mining laws. In addition, the following actions or activities are not subject to the NGD stipulation because specific laws and program terminology constrain them. However, these actions or activities may be subject stipulations: right-of-way location; coal leasing; non-energy solid mineral leasing; and mineral material disposal.

**No net unmitigated loss.** Objective to maintain the current quantity and quality of all fish and wildlife habitat on BLM-administered lands, including Greater Sage-Grouse habitat within PPMA and PGMA, by protecting existing habitat or by mitigating for loss due to anthropogenic disturbances.

**Non-Attainment of PFC.** For lentic systems, riparian areas are functioning properly when adequate vegetation, landform, or debris is present to dissipate energies associated with wind action, wave actions, and overland flow from adjacent sites, thereby reducing erosion and improving water quality; filter sediment and aid floodplain development; improve flood-water retention and groundwater recharge; develop root masses that stabilize islands and shoreline features against cutting action; restrict water percolation; develop diverse ponding characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, water bird breeding, and other uses; and support greater biodiversity.

For lotic systems, riparian areas are functioning properly when adequate vegetation, landform, or large woody material is present to dissipate stream energy associated with high waterflow, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid floodplain development; improve flood-water retention and groundwater recharge; develop root masses that stabilize stream banks against erosion; and maintain channel characteristics.

**Non-discretionary action.** A mandatory course of action by an authorized individual that is required by federal statute, regulation, or policy.

**Non-energy leasable minerals.** Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. Non-energy minerals include resources such as phosphate, sodium, potassium, and sulfur.

**Non-native species or vegetation.** A species that is not native to an area or ecosystem that was introduced to the area.

**Nonfunctional condition.** Riparian-wetland areas that clearly are not providing adequate vegetation, landform, or woody debris to dissipate energies associated with flow events, and thus are not reducing erosion or improving water quality.

**Non-Selective Removal.** A wild horse or burro gather operation in which the number of animals gathered equals the number of excess animals that need to be removed in order to achieve the post gather target or AML. Additional animals beyond the needed removal numbers are not gathered. The operation would typically be conducted in emergency situations to remove animals in distress, to animals located outside HMA boundaries, or to remove animals that are not designated for management in an HMA (remove wild horses from a burro HMA). Burro gathers are typically non-selective gathers. Population control or selection based on age or sex is not feasible during Gate Cut or Non-Selective gather operations.

**Non-target vegetation.** Vegetation that is considered to be desirable and part of the potential natural vegetation or desired plant community.

No Surface Occupancy (NSO). A major constraint where use or occupancy of the land surface for fluid mineral exploration or development and all activities associated with fluid mineral leasing (e.g., truck-mounted drilling and geophysical exploration equipment off designated routes, construction of wells and/or pads) are prohibited to protect identified resource values. Areas identified as NSO are open to fluid mineral leasing, but surface occupancy or surface-disturbing activities associated with fluid mineral leasing cannot be conducted on the surface of the land. Access to fluid mineral deposits would require horizontal drilling from outside the boundaries of the NSO area.

**Noxious weeds.** A plant species designated by federal or state law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or nonnative, new, or not common to the US.

**Objective.** A description of a desired outcome for a resource. Objectives can be quantified and measured and, where possible, have established timeframes for achievement.

Off-highway vehicle (OHV). Any motorized vehicle capable of, or designated for travel on or immediately over land, water or other natural terrain, excluding: any non-amphibious registered motorboat; any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved; vehicles in official use; and any combat or combat support vehicle when used for national defense emergencies (43 CFR 8340.0-5).

**Off-highway vehicle area designations.** BLM-administered lands in the CCD are designated as Open, Limited, or Closed for OHV use.

- Open. An area where all types of vehicle use is permitted at all times, anywhere in the area subject to the operating regulations and vehicle standards set forth in 43 CFR subparts 8341 and 8342 (43 CFR 8340.0-5).
- **Limited.** An area restricted at certain times, in certain areas, and/or to certain vehicular use. These restrictions may be of any type, but can generally be accommodated within the following type of categories: Numbers of vehicles; types of vehicles; time or season of vehicle use; permitted or licensed use only; use on existing roads and trails; use on designated roads and trails; and other restrictions (43 CFR 8340.0-5).
- Closed. An area where off-road vehicle use is prohibited. Use of off-road vehicles
  in closed areas may be allowed for certain reasons; however, such use shall be made
  only with the approval of the authorized officer (43 CFR 8340.0-5).

**Open.** Generally denotes that an area is available for a particular use or uses. Refer to specific program definitions found in law, regulations, or policy guidance for application to individual programs. For example, 43 CFR 8340.0-5 defines the specific meaning of "open" as it relates to OHV use.

**Open area.** See "Off-highway vehicle area designations – Open" definition.

**Outstandingly Remarkable Value (ORV).** Values among those listed in Section I(b) of the Wild and Scenic Rivers Act of 1968: "scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar values..." Other similar values that may be considered include ecological, biological, or botanical.

**Ozone.** A faint blue gas produced in the atmosphere from chemical reactions of burning coal, gasoline, and other fuels and chemicals found in products such as solvents, paints, and hairsprays.

**Paleontological resources.** The physical remains or other physical evidence of plants and animals preserved in soils and sedimentary rock formations.

**Passive Recreation.** Refers to non-consumptive uses such as wildlife observation, hiking, cross-country skiing, running, and horseback riding. Passive recreational activities place minimal stress on a site's resources and as a result, they can provide ecosystem benefits and are highly compatible with natural resource protection.

**Particulate matter (PM).** One of the six criteria pollutants for which the EPA established National Ambient Air Quality Standards. Particulate matter is defined as two categories, fine particulates, with an aerodynamic diameter of 10 micrometers (PM<sub>10</sub>) or less, and fine particulates with an aerodynamic diameter of 2.5 micrometers or less (PM<sub>2.5</sub>).

Passenger vehicle. Two-wheel-drive, low-clearance vehicles.

**Patent.** The instrument by which the federal government grants public land to an individual or entity. Patents may include reservations, such as the sub-surface mineral estate or easements for ditches and canals, to the United States.

**Perennial stream.** A stream that flows continuously. Perennial streams are generally associated with a water table in the localities through which they flow.

**Permitted access.** See "Administrative access" definition.

**Permitted use.** The forage allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease and expressed in animal unit months (43 CFR 4100.0-5; from H-4180-1, BLM Rangeland Health Standards Manual).

**Permitted Event.** An event, activity, or use that is authorized under the Special Recreation Permit program

**Permittee.** A person or company permitted to graze livestock on public land.

**Personal use.** The collection of vegetative products for individual use in which no resale of the material is allowed.

**Petroglyph.** A form of rock art created by incising, scratching or pecking designs into rock surfaces.

**Physiography.** The study and classification of the surface features of the earth.

**Planning area.** The geographical area for which resource management plans are developed and maintained. The Carson City planning area boundary defines the area assessed in this RMP. The planning area encompasses nine million acres in 11 counties in Nevada and California. The BLM administers about 4.8 million acres within the planning area.

**Planning criteria.** The standards, rules, and other factors developed by managers and interdisciplinary teams for their use in forming judgments about decision making, analysis, and data collection during planning. Planning criteria streamlines and simplifies the resource management planning actions.

**Planning issues**. Concerns, conflicts, and problems with the existing management of public lands. Frequently, issues are based on how land uses affect resources. Some issues are concerned with how land uses can affect other land uses, or how the protection of resources affects land uses.

**Post Treatment Monitoring.** Evaluation of the number of acres treated to determine effectiveness.

**Potential Natural Community.** The biotic community that would become established on an ecological site if all successional sequences were completed without interferences by humans under the present environmental conditions. Natural disturbances are inherent in its development. The potential natural community may include acclimatized or naturalized nonnative species.

Potential Fossil Yield Classification (PFYC) System. A system used by the BLM to classify geologic units based on the relative abundance of vertebrate fossils or scientifically

significant invertebrate or plant fossils and their sensitivity to adverse impacts, with a higher class number indicating a higher potential.

**Potential vegetation group.** Potential vegetation types grouped on the basis of a similar general moisture or temperature environment.

**Prehistoric resources.** Any material remains, structures, and items used or modified by people before Euro-Americans established a presence in the region.

**Preliminary Priority Sage-grouse Habitat (PPH).** Areas that have been identified as having the highest conservation value to maintaining sustainable sage-grouse populations. These areas would include breeding, late brood-rearing, and winter concentration areas. These areas have been identified by state fish and wildlife agencies in coordination with respective BLM offices.

**Prescribed fire.** A wildland fire originating from a planned ignition to meet specific objectives identified in a written, approved, prescribed fire.

**Prescribed grazing.** Prescribed grazing is the application of a specific kind of livestock at a determined season, duration and intensity to accomplish a clearly defined vegetation or landscape goal.

**Prevention of significant deterioration (PSD).** An air pollution permitting program intended to ensure that air quality does not diminish in attainment areas.

**Primitive and unconfined recreation.** Non-motorized, non-mechanized (except as provided by law), and undeveloped types of recreational activities.

**Primitive road.** A linear transportation route managed for use by four-wheel drive or high-clearance vehicles. Primitive roads do not normally meet any BLM road design standards.

**Priority Fish and Wildlife Species.** Species occurring on BLM-administered land that require special management due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance. Priority fish and wildlife species include, but are not limited to: Special Status Species and Game Species that are <a href="Endangered">Endangered</a>, <a href="Threatened">Threatened</a>, <a href="Sensitive">Sensitive</a>, or <a href="Candidate">Candidate</a> species. Priority fish and wildlife species and their habitat may change with dynamic resource conditions on the ground, designation modifications, and as new science dictates.

**Priority Watersheds.** Watersheds that are delineated at the HUC 12 level (USGS Hydrologic Unit Code) that contain habitat for threatened and endangered species habitat, or well head protection zones, or watersheds that serve as important source areas for municipal and agricultural water supplies.

**Proper functioning condition (PFC).** A term describing stream health that is based on the presence of adequate vegetation, landform and debris to dissipate energy, reduce erosion and improve water quality.

Proper Functioning Condition for lentic systems. Riparian areas are functioning properly when adequate vegetation, landform, or debris is present to dissipate energies associated with wind action, wave actions, and overland flow from adjacent sites, thereby reducing erosion and improving water quality; filter sediment and aid floodplain development; improve flood-water retention and groundwater recharge; develop root masses that stabilize islands and shoreline features against cutting action; restrict water percolation; develop diverse ponding characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, water bird breeding, and other uses; and support greater biodiversity.

**Proper Functioning Condition for lotic systems.** Riparian areas are functioning properly when adequate vegetation, landform, or large woody material is present to dissipate stream energy associated with high water flow, thereby reducing erosion and improving water quality; filter sediment, capture bed load, and aid floodplain development; improve flood-water retention and groundwater recharge; develop root masses that stabilize stream banks against erosion; and maintain channel characteristics.

**Proposed critical habitat.** Those areas officially proposed for designations as critical habitat by the Secretary of Interior or Commerce.

**Proposed species.** A species for which a proposed rule to add the species to the federal list of threatened and endangered species has been published in the Federal Register.

**Public land.** Land or interest in land owned by the US and administered by the Secretary of the Interior through the BLM without regard to how the US acquired ownership, except lands located on the Outer Continental Shelf and land held for the benefit of Indians, Aleuts, and Eskimos (H-1601-I, BLM Land Use Planning Handbook).

**Public water supply.** A system, regardless of ownership, that provides the public with water for human consumption through pipes or other constructed conveyances, if the system has 15 or more service connections, as defined in Nevada Revised Statutes 445A.843, or regularly serves 25 or more persons.

Range improvement project. An authorized physical modification or treatment which is designed to improve production of forage; change vegetation composition; control patterns of use; provide water; stabilize soil and water conditions; restore, protect and improve the condition of rangeland ecosystems to benefit livestock, wild horses and burros, and fish and wildlife. This definition includes, but is not limited to: structures, treatment projects and use of mechanical devices, or modifications achieved through mechanical means.

**Rangeland health.** The degree to which the integrity of the soil and ecological processes of rangeland ecosystems are sustained. Rangeland health exists when ecological processes are functioning properly to maintain the vegetative and soil structure, organization and activity of the system over time.

**Rapid Ecological Assessments (REAs).** REAs examine ecological values, conditions, and trends within ecoregions, which are large, connected areas that have similar environmental characteristics. Examples of ecoregions include the Sonoran Desert and the Colorado

Plateau. Ecoregions span administrative boundaries and typically encompass areas much larger than those managed by individual BLM field offices. The ecoregions under assessment range in size from 11 million to 91 million acres. Assessments of these larger areas provide land managers additional information and tools to use in subsequent resource planning and decision-making. REAs are called "rapid" assessments because they synthesize existing information, rather than conduct research or collect new data, and are generally completed within 18 months. This time frame is relatively "rapid" in comparison to assessments that conduct research or collect new data, or in comparison to the preparation of a BLM land-use plan, which typically takes from 36 to 48 months to complete.

**Rapid response.** Sometimes considered the "second line of defense" after prevention, early detection and rapid response (EDRR) is a critical component of any effective invasive species management program. When new invasive species infestations are detected, a prompt and coordinated containment and eradication response can reduce environmental and economic impacts. This action results in lower cost and less resource damage than implementing a long-term control program after the species is established. Early detection of new infestations requires vigilance and regular monitoring of the managed area and surrounding ecosystem. Reference website: http://www.fs.fed.us/invasivespecies/documents/FICMNEW EDRR.pdf.

**Raptor.** Bird of prey with sharp talons and strongly curved beaks, such as hawks, owls, falcons, and eagles.

**Reasonably foreseeable action.** Those actions for which there are existing decisions, funding, formal proposals, or which are highly probable, based on known opportunities or trends.

**Reasonable foreseeable development scenario.** The prediction of the type and amount of oil and gas activity that would occur in a given area. The prediction is based on geologic factors, past history of drilling, projected demand for oil and gas, and industry interest.

**Recharge areas.** Headwaters of perennial streams, contributing watersheds to springs and/or seeps, floodplains, all stream channels, municipal watersheds, and source water protection areas.

**Reclamation.** Returning disturbed lands to a form and productivity that will be ecologically balanced and in conformity with a predetermined land management plan.

**Recovery Plan.** A plan to promote the conservation of endangered or threatened species to the point at which listing is no longer appropriate under the ESA.

**Recreation Management Area (RMA).** Land units where Recreation and Visitor Services objectives are recognized as a primary resource management consideration and specific management is required to protect the recreation opportunities. RMAs can be classified as either Special Recreation Management Areas (SRMA) or Extensive Recreation Management Areas (ERMA).

**Recreational mining.** Engaging in mining activities for hobby, sport, or recreation. Recreational activities undertaken using different types of mining equipment. Also referred to as

"casual mining," "recreational panning," "recreational gold panning," and "recreational mineral prospecting."

**Recreational shooting.** The use of a firearm, bow and arrow, paintball gun, air-guns, airsoft guns or similar equipment for target shooting or plinking. The definition also applies to paintball and airsoft gun activities involving human targets.

Recreation and Public Purposes Act of 1926. Provides for the lease and sale of public lands determined valuable for public purposes. The objective of the R&PP Act is to meet the needs of state and local government agencies and nonprofit organizations by leasing or conveying public land required for recreation and public purpose uses. Examples of uses made of R&PP lands are parks and greenbelts, sanitary landfills, schools, religious facilities, and camps for youth groups. The act provides substantial cost-benefits for land acquisition and provides for recreation facilities or historical monuments at no cost.

**Recreation experiences.** Psychological outcomes realized either by recreation-tourism participants as a direct result of their on-site leisure engagements and recreation-tourism activity participation or by nonparticipating community residents as a result of their interaction with visitors and guests within their community or interaction with the BLM and other public and private recreation-tourism providers and their actions.

**Recreation Management Zones (RMZ).** Subunits within a SRMA managed for distinctly different recreation products. Recreation products are composed of recreation opportunities, the natural resource and community settings within which they occur, and the administrative and service environment created by all affecting recreation-tourism providers, within which recreation participation occurs.

**Recreation niche.** The place or position within the strategically targeted recreation-tourism market for each SRMA that is most suitable (i.e., capable of producing certain specific kinds of recreation opportunities) and appropriate (i.e., most responsive to identified visitor or resident customers), given available supply and current demand, for the production of specific recreation opportunities and the sustainable maintenance of accompanying natural resource or community setting character.

**Recreation opportunities.** Favorable circumstances enabling visitors' engagement in a leisure activity to realize immediate psychological experiences and attain more lasting, value-added beneficial outcomes.

**Recreation Opportunity Spectrum (ROS).** One of the existing tools for classifying recreation environments (existing and desired) along a continuum, ranging from primitive, low-use, and inconspicuous administration to urban, high-use, and a highly visible administrative presence. This continuum recognizes variation among various components of any landscape's physical, social, and administrative attributes. Resulting descriptions of existing conditions and prescriptions of desired future conditions define recreation setting character.

**Recreation Setting Characteristics (RSC).** The distinguishing recreational qualities of any landscape, objectively defined along a continuum, ranging from primitive to urban landscapes,

expressed in terms of the nature of the component parts of its physical, social, and administrative attributes. These recreational qualities can be both classified and mapped. This classification and mapping process should be based on variation that either exists (for example, setting descriptions) or is desired (for example, setting prescriptions) among component parts of the various physical, social, and administrative attributes of any landscape. The recreation opportunity spectrum is one of the tools for doing this.

**Recreation settings.** The collective distinguishing attributes of landscapes that influence and sometimes actually determine what kinds of recreation opportunities are produced.

**Recreation Use Permits (RUP).** Authorizations for use of developed facilities that meet the fee criteria established by the Land and Water Conservation Fund Act of 1964, as amended or subsequent authority (such as the pilot fee demonstration program). Recreation Use Permits are issued to ensure that US residents receive a fair and equitable return for the use of those facilities to help recover the cost of construction, operation, maintenance, and management of the permits.

**Reference State.** A set of plant communities where ecological processes relating to soil and site stability, hydrologic function and biotic integrity are performing at an optimum level under a natural disturbance regime. This state includes the potential natural plant community.

**Rehabilitate.** Returning disturbed lands as near to its pre-disturbed condition as is reasonably practical or as specified in approved permits.

**Renewable Energy.** Energy resources that constantly renew themselves or that are regarded as practically inexhaustible. These include solar, wind, geothermal, hydro, and biomass. Although particular geothermal formations can be depleted, the natural heat in the Earth is a virtually inexhaustible reserve of potential energy.

Required design features. Means, measures, or practices intended to reduce or avoid adverse environmental impacts. A suite of features that would establish the minimum specifications for certain activities (i.e., water developments, mineral development, and fire and fuels management) and mitigate adverse impacts. These design features would be required to provide a greater level of regulatory certainty than through implementation of Best Management Practices. In general, the design features are accepted practices that are known to be effective when implemented properly at the project level. However, their applicability and overall effectiveness cannot be fully assessed except at the project-specific level when the project location and design are known. Because of site-specific circumstances, some features may not apply to some projects (e.g., a resource is not present on a given site) and/or may require slight variations from what is described in the EIS/RMP amendment (e.g., a larger or smaller protective area). All variations in design features would require appropriate analysis and disclosure as part of future project authorizations. Additional mitigation measures may be identified and required during individual project development and environmental review.

**Research Natural Area (RNA).** A land management status which reserves the area for uses compatible with the resource of interest and research for which the area was designated.

**Reserve Allotment/Grass Bank.** A repository of available pasture/rangeland to be accessible for emergency use in case of a disaster precluding use of the normal permitted allotment. Any qualified applicant has the ability to graze, and grazing must follow an approved plan.

**Resilience.** Resilience focuses on how far a system can be displaced from equilibrium before return to equilibrium is precluded. The emphasis is placed on the persistence of relationships as they affect the system's ability to adapt to change, therefore resilience relates to the functioning of the system's ecological processes.

**Resistance.** Resistance indicates the ability of a system to remain at or near its equilibrium condition by maintaining control of its ecological processes.

**Resource Advisor.** A qualified individual who is primarily responsible for identifying and evaluating potential impacts and benefits of fire operations (wildland or prescribed fire) on natural and cultural resources.

**Resource Advisory Council (RAC).** A council established by the Secretary of the Interior to provide advice or recommendations to BLM management. The Sierra Front-Northwestern Great Basin RAC covers the CCD.

**Resource Management Plan (RMP).** A land use plan as prescribed by the Federal Land Policy and Management Act that establishes, for a given area of land, land-use allocations, coordination guidelines for multiple-use, objectives, and actions to be achieved.

**Restore/restoration.** The process of returning disturbed areas to a natural array of native plant and animal associations.

**Restoration pathway.** In the context of state and transition modeling, re-establishment of pre-threshold states following active restoration.

**Resilience.** Resilience focuses on how far a system can be displaced from equilibrium before return to equilibrium is precluded. The emphasis is placed on the persistence of relationships as they affect the systems' ability to adapt to change, therefore resilience relates to the functioning of the system's ecological processes.

**Resistance.** Resistance indicates the ability of a system to remain at or near its equilibrium condition by maintaining control of its ecological processes.

**Rest rotation.** A grazing rotation strategy that normally involves a multi-pasture system, where one pasture is given 12 months of nonuse each year, while the remaining pastures absorb all the grazing use. This grazing strategy can provide periodic rest for all pastures in the rotation system, or for pastures that have been identified as needing rest for resource reasons.

**Reuse.** Use of an existing authorization for a new purpose. As a land use authorization reaches the end of its useful life, an acceptable reuse proposal by a third party would allow the old grant to terminate without total reclamation of the facilities under the old authorization.

**Revegetate/revegetation.** The process of putting vegetation back in an area where vegetation previously existed, which may or may not simulate natural conditions.

**Revision.** The process of completely rewriting the land use plan due to changes in the planning area affecting major portions of the plan or the entire plan.

**Right-of-way (ROW).** A grant, easement, lease, permit, or license to occupy, develop, use, or traverse public lands. The Secretary of the Interior is authorized to grant, issue, or renew rights-of-way over, upon, under, or through public lands for such purposes including but not limited to reservoirs, canals, ditches, pipelines, roads, trails, highways, transmission lines, communication lines, systems for the transmission and reception of communication signals, railroads, tunnels, airways, tramways, slurry lines and conveyor belts.

**Right-of-way avoidance area.** An area only available for land use authorizations if there are no other reasonable alternatives for the authorization. If a land use authorization already exists in an avoidance area, a new authorization would be encouraged to collocate within the bounds of the existing right-of-way.

**Right-of-way exclusion area.** An area that is not available for land use authorizations.

**Riparian/aquatic system.** Interacting system between aquatic and terrestrial situations. Identified by a stream channel and distinctive vegetation that requires or tolerates free or unbound water.

**Riparian area.** Areas that provide enough available water to the root zone to establish and maintain riparian-wetland vegetation. Riparian areas are transitional areas regularly influenced by fresh water, normally extending from the edges of water bodies to the edges of upland communities.

**Riparian zone.** An area one-quarter mile wide encompassing riparian and adjacent vegetation.

**Riparian-wetland potential.** The highest ecological status a riparian-wetland area can attain given no political, social, or economic constraints.

**Road.** A linear transportation route declared a road by the owner, managed for use by low-clearance vehicles having four or more wheels, and maintained for regular and continuous use.

**Roadless.** The absence of roads that have been constructed and maintained by mechanical means to ensure regular and continuous use.

**Rock art.** Petroglyphs (carvings) or pictographs (painting) used by native persons to depict their history and culture.

Rotation. Grazing rotation between pastures in the allotment for the permitted time.

**Routes.** Multiple roads, trails and primitive roads; a group or set of roads, trails, and primitive roads that represents less than 100 percent of the BLM transportation system. Generically, components of the transportation system are described as "routes."

**Sale (public land).** A method of land disposal pursuant to Section 203 of FLPMA, whereby the US receives a fair-market payment for the transfer of land from federal ownership. Public lands determined suitable for sale are offered on the initiative of the BLM. Lands suitable for sale must be identified in the RMP. Any lands to be disposed of by sale that are not identified in the current RMP, or that meet the disposal criteria identified in the RMP, require a plan amendment before a sale can occur.

**Saturated soils.** Occur when the infiltration capacity of the soil is exceeded from above due to rainfall or snowmelt runoff. Soils can also become saturated from groundwater inputs.

**Scenic byways.** Highway routes that have roadsides or corridors of special aesthetic, cultural, or historical value. An essential part of the highway is its scenic corridor. The corridor may contain outstanding scenic vistas, unusual geologic features, or other natural elements.

**Scenic river.** A river or section of a river that is free of impoundments and whose shorelines are largely undeveloped but accessible in places by roads.

**Scoping process.** An early and open public participation process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.

**Season of use.** The time during which livestock grazing is permitted on a given range area, as specified in the grazing permit.

**Seeding.** Seeding is a vegetation treatment that includes the application of grass, forb, or shrub seed, either aerially or from the ground. In areas of gentle terrain, ground applications of seed are often accomplished with a rangeland drill. Seeding allows the establishment of native species or placeholder species and restoration of disturbed areas to a perennial-dominated cover type, thereby decreasing the risk of subsequent invasion by exotic plant species. Seeding would be used primarily as a follow-up treatment in areas where disturbance or the previously described treatments have removed exotic plant species and their residue.

**Selective Removal.** A wild horse or burro gather operation in which the number of animals gathered exceeds the number of excess animals that need to be removed in order to achieve the post gather target or AML. The operation typically would involve selection of animals to return to the age based on age, sex, or other characteristics as determined through Herd Management Area Plan or analyzed in a Gather Plan and NEPA document. Selective removal also provides the opportunity for the BLM to implement population controls such as fertility control.

**Short-term effect.** The effect occurs only during or immediately after implementation of the alternative.

**Significant Cave.** A cave located on Federal lands that has been evaluated and determined to possess one or more of the following features, characteristics, or values: biota, cultural, geologic/mineralogical/paleontological, hydrologic, recreational, or educational/scientific.

**Significant fossils.** Any vertebrate fossil remains or site with fossils of exceptional preservation or context.

**Significant impacts** (in reference to off-site mitigation requirements). Any disturbance activity that results in the reduction in the quantity or quality of wildlife priority habitat.

**Sole-source aquifer.** Defined by the US EPA as an aquifer supplying at least 50 percent of the drinking water consumed in the area overlying the aquifer, where the surrounding area has no alternative drinking water source(s) that could physically, legally, and economically supply all those who depend upon the aquifer for drinking water.

**Solitude.** The state of being alone or remote from habitations; isolation. A lonely or secluded place. Factors contributing to opportunities for solitude may include size, natural screening, topographic relief, vistas, physiographic variety, and the ability of the user to find a secluded spot.

**Source water protection area.** The area delineated by a state for a public water supply or including numerous suppliers, whether the source is ground water or surface water or both.

**Special Recreation Management Area (SRMA).** An administrative public lands unit identified in land use plans where the existing or proposed recreation opportunities and recreation setting characteristics are recognized for their unique value, importance, and/or distinctiveness, and recreation is identified as the predominate resource use and recreation opportunities are managed and protected on a long-term basis.

**Special Recreation Permit (SRP).** Authorization that allows for recreational uses of public lands and related waters issued as a means to manage visitor use, protect recreational and natural resources, and provide for the health and safety of visitors. There are five types of SRPs as defined below:

- Commercial: any recreational use of the public lands and related waters for business
  or financial gain. Financial gain includes gratuities, donations, gifts, bartering, etc.
  where a duty of care or expectation of safety is owed participants by service
  providers as a result of compensation. It may also be characterized by public
  advertising for participants.
- Competitive: any organized, sanctioned, or structured use, event, or activity on public land in which two or more contestants compete and either participants register, enter, or complete an application or there is a predetermined course or area designated for the event.
- Organized: any group outdoor recreation activity or event that is neither commercial nor competitive. A group is loosely defined as more than one person participating in a recreation activity or event.
- Vending: any temporary, short-term, non-exclusive revocable authorization to sell goods or services on public lands in conjunction with a recreation activity.

• Special Area Use: authorizations for individual (private, noncommercial) recreation use in areas officially designated as Special Areas by statute or Secretarial Order.

**Special status species (BLM).** BLM special status species are: (1) species which are federally listed, candidate, or proposed for listing under the Endangered Species Act; and (2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the Endangered Species Act that are designated as BLM sensitive by the BLM State Director(s). All federally listed candidate species, proposed species, and delisted species in the five years following delisting are conserved as BLM sensitive species.

**Split estate.** A parcel of land in which all or a portion of the mineral estate is owned by someone other than the surface estate owner. For example, the surface is in private ownership while the subsurface mineral resources are publicly held and managed by the federal government.

**Stabilize.** The process of stopping further damage from occurring.

**Stabilizing vegetation (riparian).** Riparian vegetation with the extensive root masses capable of withstanding high-flow events. USDA Forest Service (1992) has developed stability ratings for community types and other bank features (barren, rock, etc.).

**Standard.** A description of the physical and biological conditions or degree of function required for healthy, sustainable lands (e.g., land health standards). To be expressed as a desired outcome (goal).

**Standard deviation:** A statistical measurement of variation from the average (mean). A low standard deviation means that more of the data points are close to the mean; a high standard deviation means that more of the data points are far away or cover a large range of values from the mean. Standard deviation units are expressed in the same units as the original measurement.

**Standard lease terms and conditions.** Areas may be open to leasing with no specific management decisions defined in a Resource Management Plan; however, these areas are subject to lease terms and conditions as defined on the lease form (Form 3100-11, Offer to Lease and Lease for Oil and Gas; and Form 3200-24, Offer to Lease and Lease for Geothermal Resources).

**Standards and Guidelines Assessment (S&G Assessment).** Estimating or judging the status of the ecosystem resources, functions, or processes within a geographic area at a specific time. An assessment characterizes the status of the resource conditions so that the status can be evaluated in relation to rangeland health standards.

**Standards and Guidelines Evaluation (S&G Evaluation).** An S&G Evaluation analyzes and interprets the findings from the S&G Assessment, relative to the standards for rangeland health, to evaluate the degree of achievement of the standards for rangeland health, and based upon review of existing information, the evaluation draws conclusions on the potential causal factors

for not achieving land health standards and what may be required to make significant progress towards achieving those standards.

**State.** A state is a recognizable, resistant and resilient complex of 2 components, the soil base and the vegetation structure. The vegetation and soil components are necessarily connected through integrated ecological processes that interact to produce a sustained equilibrium that is expressed by a specific suite of vegetative communities.

**State implementation plan.** A detailed description of the programs a state will use to carry out its responsibilities under the Clean Air Act. State implementation plans are collections of the regulations used by a state to reduce air pollution.

**Stationary source.** Refers to a stationary source of emissions. Prevention of Significant Deterioration permits are required for major new stationary sources of emissions that emit 100 tons or more per year of carbon monoxide, sulphur dioxide, nitrogen dioxide, ozone, or particulate matter.

**Stipulation** (general). A term or condition in an agreement or contract.

**Stipulation (oil and gas).** A provision that modifies standard oil and gas lease terms and conditions in order to protect other resource values or land uses and is attached to and made a part of the lease. Typical lease stipulations include No Surface Occupancy (NSO), Timing Limitations (TL), and Controlled Surface Use (CSU). Lease stipulations are developed through the land use planning (RMP) process.

**Suitable river.** A river segment found, through administrative study by an appropriate agency, to meet the criteria for designation as a component of the National Wild and Scenic Rivers system, specified in Section 4(a) of the Wild and Scenic Rivers Act.

**Surface-disturbing activities.** Human-caused disturbance resulting in direct and pronounced alteration, damage, removal, displacement, or mortality of vegetation, soil, or substrates; usually entail motorized or mechanized vehicles or tools; typically can also be described as disruptive activities (see following definition). Examples of typical surface disturbing activities include earthmoving and drilling; geophysical exploration; off-route motorized and mechanized travel; vegetation treatments including woodland thinning with chainsaws; pyrotechnics and explosives; and construction of power lines, pipelines, oil and gas wells, recreation sites, livestock improvement facilities, wildlife waters, or new roads. Examples of casual use and other activities that would not normally be considered surface disturbing activities include equestrian use; managed livestock grazing; cross-country hiking; hand-spraying weeds; minimal trimming of vegetation to maintain ROWs; fire management and fire suppression activities; motorized and mechanized travel on designated routes; and maintenance of permitted areas under valid existing rights.

**Sustained yield.** The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use.

**Target vegetation.** Vegetation that is considered to be detrimental to or invasive within a plant community when compared to the objectives for the site.

**Targeted grazing/prescribed grazing.** The application of a specific kind of livestock at a determined season, duration and intensity to accomplish defined vegetation or landscape goals.

Terrestrial. Living or growing in or on the land.

**Threatened species.** Any species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range (BLM Manual 6840, Special Status Species Management). Under the Endangered Species Act in the US, "threatened" is the lesser-protected of the two categories. Designation as threatened (or endangered) is determined by US Fish and Wildlife Service as directed by the Endangered Species Act.

**Threshold (ecological).** Thresholds are points in space and time at which one or more of the primary ecological processes responsible for maintaining the sustained equilibrium of the state degrades beyond the point of self-repair. Thresholds: boundary in space and time between any and all states, or along irreversible transitions, such that one or more of the primary ecological processes has been irreversibly changed and must be actively restored before return to a previous state is possible.

**Threshold (recreation).** The point at which the "limit of acceptable change and sustainability is reached. Threshold can be measured in terms of quality standards for the physical, psychological and environmental capacity of an area based upon planning, resource concerns, potential user conflicts, and public health and safety.

**Timber.** Standing trees, downed trees, or logs which are capable of being measured in board feet.

Timing Limitation (TL). The TL stipulation, a moderate constraint, is applicable to fluid mineral leasing, all activities associated with fluid mineral leasing (e.g., truck-mounted drilling and geophysical exploration equipment off designated routes, construction of wells and/or pads), and other surface-disturbing activities (i.e., those not related to fluid mineral leasing). Areas identified for TL are closed to fluid mineral exploration and development, surface-disturbing activities, and intensive human activity during identified time frames. This stipulation does not apply to operation and basic maintenance activities, including associated vehicle travel, unless otherwise specified. Construction, drilling, completions, and other operations considered to be intensive in nature are not allowed. Intensive maintenance, such as workovers on wells, is not permitted. TLs can overlap spatially with NSO, NGD, CSU, SSR, as well as with areas that have no other restrictions. Administrative activities are allowed at the discretion of the Authorized Officer.

**Total dissolved solids.** Salt, or an aggregate of carbonates, bicarbonates, chlorides, sulfates, phosphates, and nitrates of calcium, magnesium, manganese, sodium, potassium, and other cations that form salts.

**Total maximum daily load (TMDL).** An estimate of the total quantity of pollutants (from all sources: point, nonpoint, and natural) that may be allowed into waters without exceeding applicable water quality criteria.

**Traditional cultural property (TCP).** A property that derives significance from traditional values associated with it by a social or cultural group, such as an Indian tribe or local community. A traditional cultural property may qualify for the National Register of Historic Places if it meets the criteria and criteria exceptions at 36 CFR 60.4 (see National Register Bulletin 38).

**Traditional use.** Longstanding, socially conveyed, customary patterns of thought, cultural expression, and behavior, such as religious beliefs and practices, social customs, and land or resource uses. Traditions are shared generally within a social and/or cultural group and span generations.

**Trail.** A linear route managed for human-power (e.g., hiking or bicycling), stock (e.g., equestrian), or off-highway vehicle forms of transportation or for historical or heritage values. Trails are not generally managed for use by four-wheel drive or high-clearance vehicles.

**Transition.** Transitions are trajectories of change that are precipitated by natural events and/or management actions which degrade the integrity of I or more of the state's primary ecological processes. The primary difference between the reversible and irreversible property of a transition is defined by the systems' ability or inability to repair itself.

**Transmission.** A passage or transfer, as of a disease from one individual to another or of neutral impulses from one neuron to another.

**Transportation linear features.** "Linear features" represents the broadest category of physical disturbance (planned and unplanned) on BLM land. Transportation related linear features include engineered roads and trails, as well as user-defined, non-engineered roads and trails created as a result of the public use of BLM land. Linear features may include roads and trails identified for closure or removal as well as those that make up the BLM's defined transportation system.

**Transportation system.** The sum of the BLM's recognized inventory of linear features (roads, primitive roads, and trails) formally recognized, designated, and approved as part of the BLM's transportation system.

**Travel Management Areas (TMA).** Polygons or delineated areas where a rational approach has been taken to classify areas open, closed or limited, and have identified and/or designated a network of roads, trails, ways, landing strips, and other routes that provide for public access and travel across the planning area. All designated travel routes within travel management areas should have a clearly identified need and purpose as well as clearly defined activity types, modes of travel, and seasons or timeframes for allowable access or other limitations (BLM Handbook H-8342 Travel and Transportation Handbook).

**Treatments.** Management actions designed to modify, restore or enhance the integrity, functionality, production, composition or diversity of plant communities.

**Trespass.** The unauthorized use, development, or occupancy of public land.

**Tribal interests.** Native American or Native Alaskan economic rights such as Indian trust assets, resource uses and access.

**Understory.** That portion of a plant community growing underneath the taller plants on the site.

**Unexploded Ordinance (UXO).** Consists of military materials used in tests and on training ranges. UXO may include but is not limited to bombs, mortars, artillery shells, rockets, submunitions and landmines. Given the amount of aircraft used on the various military facilities in the planning area, it is possible that a military aircraft could crash and be a source of UXO.

**Unique geologic features.** A-typical geologic features found within the district that provide outstanding examples or opportunities for scientific education.

**Upland Game Birds.** Non-waterfowl game birds usually hunted with pointing breed, flushing spaniels, and retrievers. Upland game birds include grouse, chukar, quail, snipe, doves, pigeons, ptarmigan, and wild turkey.

**Upland springs and seeps.** Water sources on the landscape that could be stream order 1, 2 or 3 (in Nevada) but do not have enough of an expression to be classified with a beneficial use. (No recreating, fisheries, or irrigation uses). A first order stream is the smallest of the world's streams and consists of small tributaries. These are the streams that flow into and "feed" larger streams but do not normally have any water flowing into them. In addition, first and second order streams generally form on steep slopes and flow quickly until they slow down and meet the next order waterway. First through third order streams are also called headwater streams and constitute any waterways in the upper reaches of the watershed.

**Utility corridor.** Tract of land varying in width forming passageway through which various commodities such as oil, gas, and electricity are transported.

**Utility Terrain Vehicle.** A small one- to four-person off-road vehicle also referred to as a side-by-side. The UTV has a steering wheel for steering control and non-straddle seating for the operator and all passengers.

**Utilization.** The proportion of current year's forage production that is consumed or destroyed by grazing animals (including insects). The term may refer either to a single species, a group of species, or to the vegetation community as a whole. Utilization is synonymous with use. Degree of utilization has been placed in the following categories (the percent of removal associated with each utilization category may be updated based on current science and further specified according to plant community type). Utilization categories are classified based on the amount of forage removed by weight on individual key species.

**Slight.** Removal of 1 to 20% of current year's growth.

**Light.** Removal of 21 to 40% of currents year's growth.

**Moderate.** Removal of 41-60% of current year's growth.

Heavy. Removal of 61-80% of current year's growth.

**Severe**. Removal of 81-100% of current year's growth.

**Vacant Allotment.** An allotment that is open to grazing, but does not have any grazing permits currently issued.

**Valid existing rights.** Documented, legal rights or interests in the land that allow a person or entity to use said land for a specific purpose and that are still in effect. Such rights include but are not limited to fee title ownership, mineral rights, rights-of-way, easements, permits, and licenses. Such rights may have been reserved, acquired, leased, granted, permitted, or otherwise authorized over time.

**Value at risk.** Communities and community infrastructure, other property and improvements, natural and cultural resources.

**Vegetation manipulation.** Planned alteration of vegetation communities through use of mechanical, chemical, seeding, and/or prescribed fire or managed fire to achieve desired resource objectives.

**Vegetative permits.** A written permit is required from the owner of the land from which vegetative material is harvested unless the total amount is less than reasonable amounts as established in the Resource Management Plan.

**Vegetative products.** Includes wood and vegetative material that is removed from public land for subsequent use (e.g. grasses, seeds, cones, roots, bark, berries, mosses, ferns, edible mushrooms, tree seedlings, transplants, poles, and firewood).

**Vegetation structure.** The stage of plant community development, encompassing age of stand, height of vegetation, and spatial distribution of plants.

**Vegetation treatments.** Management practices which change the vegetation structure to a different stage of development. Vegetation treatment methods include managed fire, prescribed fire, chemical, mechanical, and seeding.

**Vegetation type.** A plant community with immediately distinguishable characteristics based upon and named after the apparent dominant plant species.

**Vertebrate.** An animal having a backbone or spinal column. Includes jawless fishes, bony fishes, sharks and rays, amphibians, reptiles, mammals, and birds.

**Viewshed.** The panorama from a given viewpoint that encompasses the visual landscape, including everything visible within a 360-degree radius.

**Visibility (air quality).** A measure of the ability to see and identify objects at different distances.

**Visual Resource Management (VRM).** The inventory and planning actions taken to identify visual resource values and to establish objectives for managing those values, and the management actions taken to achieve the visual resource management objectives.

**Visual Resource Management Classes.** Define the degree of acceptable visual change within a characteristic landscape. A class is based on the physical and sociological characteristics of any given homogeneous area and serves as a management objective. Categories assigned to public lands are based on scenic quality, sensitivity level, and distance zones. Each class has an objective that prescribes the amount of change allowed in the characteristic landscape (from H-1601-1, BLM Land Use Planning Handbook).

The four classes are described below:

- Class I provides for natural ecological changes only. This class includes primitive
  areas, some natural areas, some wild and scenic rivers, and other similar areas
  where landscape modification activities should be restricted.
- Class II areas are those areas where changes in any of the basic elements (form, line, color, or texture) caused by management activity should not be evident in the characteristic landscape.
- Class III includes areas where changes in the basic elements (form, line, color, or texture) caused by a management activity may be evident in the characteristic landscape. However, the changes should remain subordinate to the visual strength of the existing character.
- Class IV applies to areas where changes may subordinate the original composition and character; however, they should reflect what could be a natural occurrence within the characteristic landscape.

**Visual resources.** The visible physical features on a landscape, (topography, water, vegetation, animals, structures, and other features) that comprise die scenery of the area.

**Visual sensitivity.** Visual sensitivity levels are a measure of public concern for scenic quality and existing or proposed visual change.

**Volatile organic compounds.** Chemicals that produce vapors readily at room temperature and at normal atmospheric pressure. Volatile organic compounds include gasoline, industrial chemicals such as benzene, solvents such as toluene and xylene, and tetrachloroethylene (perchloroethylene, the principal dry cleaning solvent).

**Waiver.** A waiver permanently exempts the surface stipulation. No permanent exemptions or waivers are authorized unless the areas mapped as possessing the attributes are field verified by BLM staff to lack those attributes.

**Watershed.** Topographical region or area delineated by water draining to a particular watercourse or body of water.

Water impoundment structures. Structures such as dams, dikes, and levees used to create or store a body of water within a drainage way (annual, ephemeral or perennial waterway/stream).

Way (wilderness study areas). A linear transportation feature within a WSA created solely by the passage of vehicles that was identified and designated during the BLM's original wilderness inventory process. Ways are now referred to as primitive routes.

Weed-free. Products which are certified by state agencies as being free of noxious weed seed.

Wellhead Protection Area. The surface and subsurface area surrounding a water well or well field, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or well field.

**Wellhead Protection Zone.** A protective buffer zone around domestic water wells based on site-specific analysis.

**Wild and scenic study river.** Rivers identified in Section 5 of the Wild and Scenic Rivers Act of 1968 for study as potential additions to the National Wild and Scenic Rivers System. The rivers will be studied under the provisions of Section 4 of the act (BLM Manual 8351, BLM WSR Policy and Program).

Wilderness. A congressionally designated area of undeveloped federal land retaining its primeval character and influence, without permanent improvements or human habitation, that is protected and managed to preserve its natural conditions and that (I) generally appears to have been affected mainly by the forces of nature, with human imprints substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least 5,000 acres or is large enough to make practical its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historic value. The definition contained in Section 2(c) of the Wilderness Act of 1964 (78 Stat. 891) (H-6310-1, Wilderness Inventory and Study Procedures).

Wilderness characteristics. Wilderness characteristics attributes include the area's size, its apparent naturalness, and outstanding opportunities for solitude or a primitive and unconfined type of recreation. They may also include supplemental values. Lands with wilderness characteristics are those lands that have been inventoried and determined by the BLM to contain wilderness characteristics as defined in section 2(c) of the Wilderness Act.

**Wilderness Study Area (WSA).** Areas with wilderness characteristics identified and designated through the inventory and study processes authorized by Section 603 of FLPMA, and, prior to 2003, through the planning process authorized by Section 202 of FLPMA.

**Wildland fire.** Wildland fire is a general term describing any non-structure fire that occurs in the wildland. Wildland fires are categorized into two distinct types: Wildfires: Unplanned ignitions or prescribed fires that are declared wildfires; and Prescribed fires: Planned ignitions.

**Wildland-urban interface (WUI).** The line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

**Wildlife escape ramp.** Structure that allows birds and small mammals to exit guzzlers, water troughs, or other artificial water structures.

**Wildlife Friendly Fencing.** Fencing that is designed in a manner that allows animals (wildlife not domestic) to jump over and crawl under easily without injury, is highly visible for both ungulates and birds, and is constructed in a location that does not inhibit wildlife movement across the landscape.

**Wild river.** Those rivers or sections of rivers free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and unpolluted. These represent vestiges of primitive America.

Wild, Scenic, or Recreational river. The term used for what is traditionally shortened to wild and scenic rivers. Designated river segments are classified as wild, scenic, or recreational but cannot overlap (BLM Manual 8351, BLM WSR Policy and Program).

**Withdrawal.** An action that restricts the use of public land and segregates the land from the operation of some or all of the public land and mineral laws. Withdrawals are also used to transfer jurisdiction of management of public lands to other federal agencies.

**Woodlands.** A tree dominated plant community in which either non-merchantable conifers (e.g. pinyon pine) or hardwoods dominate.

**Wood product sales/harvest.** Any wood-collection activity other than incidental use involving the severance and/or removal of any vegetative material for personal use requiring a permit or commercial use requiring a contract.